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FINAL REPORT

OF THE

INTERAGENCY MANAGEMENT REVIEW TEAM

SOUTH CANYON FIRE

June 26, 1995

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Have Paid the Ultimate Price

in Wildland Fire

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Contributed to Improving Wildland Fire Safety

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Final Report of the Interagency Management Review Team
South Canyon Fire
June 26, 1995

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A Message from Wildland Fire Agency Heads

This Final Report of the Interagency Management Review Team documents accomplishments since the release of the Team's Corrective Action Plan in October 1994 and makes further recommendations for continuing to improve wildland fire safety.

The most impressive accomplishment in the past several months has been the commitment to safety and safe practices that has been made by firefighters and by managers. Procedures, policies, training, and proper equipment are all necessary to ensuring safe practices, but they are not sufficient. Everyone involved in wildland fire must be personally committed and responsible for their own performance and accountability.

We endorse the May 12, 1995, joint statement to employees by Secretaries Glickman and Babbitt and commit ourselves to the code of safe practices it contains. We hold our managers accountable and expect them to hold their subordinates accountable. We will take action when performance is not acceptable and pledge to creating a management and institutional environment that fosters safe behavior, personal responsibility, and actions based on sound assessment of risk.

Much has been done to improve wildland fire safety, but additional effort is needed to address all of the recommendations that have been made. The attached report summarizes progress to date and outlines a number of remaining actions, along with responsible groups and individuals. We expect that those groups and individuals will continue to place a high priority on addressing the many recommendations and suggestions for further action. Whenever and where ever possible, implementation should take place on an interagency and intergovernmental basis.

Mike Dombeck, Acting Director
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for Jack Ward Thomas, Chief
U.S. Forest Service

Roger Kennedy, Director
National Park Service

Acting Hilda Manuel, Deputy Commissioner
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Executive Summary

When the South Canyon Fire swept up Storm King Mountain on July 6, 1994, resulting in the deaths of 14 firefighters, it marked the beginning of a long and tragic year for wildland fire. Eventually 34 lives would be lost, millions of acres burned, and nearly one billion dollars spent. With wildland fire experiencing one of its most tragic years this Century, safety became the watchword. In the months since the tragedy on Storm King Mountain a number of management and operational reviews have taken place, the Occupational Safety and Health Administration issued two Notices of Violation, and the Secretaries of the Interior and Agriculture chartered a comprehensive review of federal wildland fire policy.

In the hours following the tragedy in Colorado a joint Bureau of Land Management/U.S. Forest Service investigation team was chartered to examine the accident. Following submission of the South Canyon Accident Investigation Team report in August of 1994, the Acting Director, Bureau of Land Management and the Chief, U.S. Forest Service, established the Interagency Management Review Team (IMRT) to serve as the steering group to study the findings and conclusions of the Team, to review and refine that team's recommendations, and to propose a plan for corrective action. In October of 1994 the IMRT issued a report, accepted by all five wildland fire management agencies and the two Departments, containing a corrective action plan and addressing related management and policy issues.

Now, nearly a year after the tragedy, the IMRT completes its work with a final report to the heads of the five federal wildland fire agencies. Much has been accomplished to improve the safety of those working in wildland fire and much remains to be done. With submission of this report the IMRT turns over responsibility for remaining actions to those with direct, ongoing responsibility for wildlland fire policy and procedures. They are in the best position to allocate staff and other resources toward addressing those recommendations.

Principal Findings

- No simple solution or novel approach exists that will significantly improve the safety of wildland fire operations or protect wildland firefighters from harm. The reader will find no dramatic changes in the form of new equipment or technology, new training, new policy, or new procedures. Rather, there are numerous modifications and improvements in those areas, representing a process of constant and ongoing progress toward the goal of reduced risks to wildland firefighters.

- The most important change that has taken place is the renewed commitment to safety on the part of agency management and wildland firefighters. The tragedies of 1994 were a wake-up call that no number of procedures, no number of training courses, and no amount of sophisticated equipment and technology can replace personal and institutional values that place safety above all else.
- Continued commitment on the part of both management and individuals is key to continued improvements. Each must regularly renew their commitment and become responsible and accountable for their actions.

Accomplishments

As a result of the October 1994 IMRT recommendations and corrective action plan a number of changes have occurred:

- Procedures for communicating weather information have reviewed, modified, and improved;
- Training courses have been modified to include the lessons of South Canyon and to focus agency managers on their responsibilities;
- Standards for use of fire shelters and frequency of training have been reviewed and are being implemented;
- Agency management, beginning with the Secretaries of both affected departments, have committed through word and deed to improving safety and to making safety the primary criterion in fire suppression strategy and tactics;
- Top-to-bottom wildland fire management reviews have been conducted in BLM-Colorado, BLM-bureauwide, and USFS-Rocky Mountain Region.

In addition to changes already implemented, many recommendations have been made and are now pending with senior fire management officials. These recommendations propose changes in programs ranging from interagency hotshot crews and smokejumpers to interagency coordination and dispatch to better understanding of drought and fuel conditions to aviation management.

These and others are documented and discussed in greater detail in the Corrective Action Plan section of this report.

Principal Recommendations

In the report that follows the IMRT makes a number of recommendations to management. Within the products of the many work groups are even more recommendations to agency administrators and to fire managers. Of these, the most important for senior policy officials in the five federal wildland fire agencies are:

- Track and Monitor Continued Efforts and Progress - by necessity many of the recommendations and ideas produced in the last several months cannot be implemented by the IMRT or cannot be implemented immediately; that task lies with groups such as the Federal Fire and Aviation Leadership Council, the National Wildfire Coordinating Group, and others. The heads of the five agencies should monitor and track the efforts of these groups and hold them accountable for ensuring that the work of the last few months does not get lost. Priority and emphasis should be given to those items that improve firefighter safety.
- Create a Management Climate That Promotes Safety and Accountability - the direction and tone that senior management sets is critical for making long-term institutional changes. Personnel at all levels must be held accountable for their actions. Management must avoid the temptation to rely on systems and mechanisms and instill, through deed as well as word, the values of personal accountability and responsibility. Appropriate actions must be taken when performance is poor; those that take risks based on sound reasoning should be supported, regardless of outcome; management at all levels must take a personal interest in ensuring that safe practices are followed.
- Ensure That All Management Actions Include Consideration of Safety - current efforts to streamline, downsize, reconfigure, and otherwise change organizations to meet budgetary constraints have the potential to severely affect firefighter safety. A lack of qualified supervisory and management personnel could result in poor decisions, directly jeopardizing the safety of employees. Filling vacant positions with personnel not qualified to make crucial strategic and tactical decisions could directly jeopardize employees. Likewise, land management and other plans that create false expectations about fire protection or that generate hazardous fuel or other conditions jeopardize firefighter safety. Senior managers must be aware of the implications of seemingly unrelated management actions if risks to the firefighter safety are to be minimized.
- Begin to Look at Alternatives for Fire Weather Information - a critical causal factor at South Canyon was the availability of weather information. The wildland fire community is making increasing demands on the National Weather Service to provide better, more frequent fire weather information for planning and operational purposes. Yet, the Weather Service faces severe restrictions due to budget constraints and a changing mission to reflect other national priorities. Alternatives to the Weather Service are probable, but will take time to develop and acquire credibility with the wildland fire community. It is not too soon for the wildland fire agencies to collectively examine alternatives to sole reliance on the National Weather Service for fire weather services.

Introduction and Background

"Firefighters and fire managers are engaged in a complex business that has inherent risks and requires skill, good judgment, and the ability to make difficult decisions....We feel a strong responsibility to wildland firefighers everywhere particularly those who lost their lives in this incident, to help reduce the risk of a recurrence of the deep, personal loss experienced in the South Canyon Fire."

From the Preface
Report of the South Canyon Fire Accident Investigation Team
August 17, 1994

On August 22, 1994, the Director of the Bureau of Land Management and the Chief of the Forest Service released the results of the investigation of the South Canyon Fire, which claimed the lives of 14 firefighters near Storm King Mountain, Colorado. The interagency team that investigated the circumstances surrounding that incident identified a number of findings and causal factors, and made several recommendations to address those findings and causal factors.

The acting Director and the Chief established an Interagency Management Review Team (IMRT) to prepare a corrective action plan to address recommendations of the investigation team and to address other related issues. The IMRT appointed by the Director and the Chief included personnel from the Forest Service, the Bureau of Land Management, the National Park Service, the Fish and Wildlife Service, and the Department of the Interior. A representative of the National Weather Service joined the team in its work; representatives from the National Association of State Foresters assisted the team at various times.

The charter of the IMRT lays out three principal tasks: (1) take any immediate actions to improve firefighter safety this year, (2) develop a corrective action plan that addresses the recommendations of the Interagency Investigation Team and recommend a strategy for implementation of that action plan, and (3) identify other significant issues and concerns related to the interagency wildland fire management program and prepare recommended actions to address those issues and concerns.

In October 1994 the IMRT released its report, including a corrective action plan. That report was accepted by the heads of the five wildland fire agencies and by the senior safety and health officials of the two departments. The corrective action plan identified some 35 separate recommendations or projects. Since that time a number of *ad hoc* and existing groups convened to address those recommendations. When possible and important, every effort was made to make changes prior to the onset of the major 1995 fire season.

This report documents the efforts of those groups, noting products and results and identifying additional actions needed, as well as groups or individuals responsible for those actions.

For further information about the products generated as a result of the corrective action plan, see Appendices 3 and 4.

Acknowledgments
The IMRT wishes to thank all of the individuals who served on the teams, groups, and committees charged with following up on the recommendations. Scores of individuals from senior agency managers to firefighters were involved in turning our concepts and directions into tangible, workable improvements to wildland fire management. The willingness of these individuals to help with this effort should be honored by all.

OSHA Notices of Violation

"[W]e conclude that the primary cause leading to the deaths of the fourteen firefighters was that no one person was responsible for insuring the safety of the firefighters....[The Notices of Violation] are symptomatic of the lack of management attention to insuring that firefighting operations are conducted with safety of firefighters as the primary goal."

Joseph A. Dear
Assistant Secretary for Occupational Safety and Health,
from Letter to Director, BLM and Chief, USFS
February 8, 1995

In addition to the investigation of the South Canyon Fire fatalities conducted by the Bureau of Land Management and the Forest Service, the Occupational Safety and Health Administration (OSHA) conducted its own investigation, pursuant to Section 19 of the Occupational Safety and Health Act of 1970 and Executive Order 12196 of February 26, 1980. The OSHA investigation was conducted independently in order to identify and recommend the correction of any systemic safety and health program deficiencies that may have contributed to the tragedy. OSHA focused on safety and health issues, deferring to the agencies on wildfire strategy and tactics.

On February 8, 1995, OSHA issued two Notices of Violation to both the Director of the Bureau of Land Management and the Chief of the U.S. Forest Service, including a "Willful" violation for failure of the agency to "furnish employees employment which was free from recognized hazards that were causing or likely to cause death or serious physical harm" and a "Serious" violation for failure of the agency to "provide sufficient management oversight to ensure that existing safe firefighting practices were followed."

The FS and BLM requested and were granted an "Informal Conference" with OSHA, which took place on March 3, 1995, in Denver, Colorado, to discuss the Notices and the abatement plan requested by OSHA. During that conference, and other meetings and conversations with OSHA officials, the importance and relevance of the "Management Implications" section of the October 1994 IMRT report were often cited. Consequently, on March 13-14, 1995, the IMRT held a special workshop to focus more specifically on the "management implications" and to explore in more depth how to address the issues raised by OSHA.

On May 12, 1995, the BLM and FS jointly submitted to OSHA a plan containing a listing of specific actions taken, or underway, to abate the unsafe working conditions cited in the February Notices. Included within that plan was a section devoted to management involvement and commitment to fire safety, focusing on the three management implications identified in the October, 1994, IMRT report.

Management Implications

"[T]here is a greater need for line officers and managers to become more committed to, and involved in, fire and aviation programs to assure that all aspects of fire management and suppression policy are carried out."

Jack Ward Thomas, Chief, U.S.F.S.
Memorandum Transmitting "Fire Management Activity Review - Rocky Mountain Region"
March 27, 1995

The October 1994 report of the IMRT presented issues and concerns that have implications for management. These were developed by the Interagency Management Review Team, based on its review of the investigation team's report, review of witness statements gathered by the investigation team, comments and suggestions from employees and the public, and meetings with agency fire management officials. In the subsequent months a great deal of additional attention has focused on the issue of "management implications" and the measures managers (from the highest to the lowest levels) can take.

In his February 8, 1995, letter to the Acting Director of BLM and the Chief of the Forest Service, Assistant Secretary for Occupational Safety and Health, Joseph A. Dear, noted that "[c]hange must start with management, from the top to the bottom of each agency involved in wildland fire. The willful and serious violations identified in the Notices issued today are symptomatic of the lack of management attention to insuring that firefighting operations are conducted with safety of firefighters as the primary goal." In conversations and meetings in the months since the Notices were issued OSHA management has continued to emphasize the importance of management involvement and to support the efforts that have begun within the two Departments.

The October 1994 report identified three principal areas with management implications: (1) creating a passion for safety, (2) involvement of agency administrators, and (3) monitoring performance and accountability. These areas, and the statements of the IMRT regarding each, remain as relevant and important today. Since October of 1994 a number of actions have taken place to address these areas; some are contained within the results of the Corrective Action Plan and some have taken place in addition to that Plan. The two Departments, with the five wildland fire agencies, have made extensive efforts to involve a wide cross section of management and firefighters in work to improve firefighter

safety. Top level managers have given their strong commitment individually and as policy officials to improving firefighter safety. Key actions and accomplishments, along with specific recommendations and action items for management, follow.

Accomplishments

IMRT Management Implications Workshop

On March 13-14, 1995, the IMRT sponsored an interagency workshop of fire management, safety, and agency administrator personnel to discuss the three management implications and to develop a strategy for addressing them in specific terms. The workshop participants agreed on a strategy addressing the following three topics:

1. Increasing Management Commitment & Involvement in Wildland Fire
2. Firefighter Involvement and Feedback
3. Improving Performance and Accountability

This strategy and recommended implementation actions are included in this report at Appendix 5.

Secretarial Statement on "Zero Tolerance"

On May 12, 1995, Secretary of Agriculture Dan Glickman and Secretary of the Interior Bruce Babbitt signed a letter to all employees stressing their commitment to firefighter safety, establishing a policy of "zero tolerance" for carelessness and unsafe actions, and promulgating a code of safe practices for firefighting. This letter will serve as the basis for management commitment and action at agency and field levels in both Departments. See Appendix 2 for the complete text of the letter.

Firefighter Safety Discussion Guide

In May of 1995, the heads of the five federal wildland fire agencies (USFS, BLM, FWS, NPS, and BIA) issued a Firefighter Safety Discussion Guide to their regional levels. This guide communicates changes and corrections in the wildland fire program to "fireline firefighters." In transmitting the guide, the five agency heads committed to the following course:

- *Leadership within all levels of our fire program must make fundamental adjustments to create a clear passion for safety.*
- *Agency Administrators must become and remain actively involved in managing wildland fire. Heads of agencies on down to first line managers have a duty and responsibility to understand and implement safe fire management policies and practices.*

- *Agency Administrators and fire management personnel at all levels of wildland fire agencies will be held accountable for their performance involving fire safety.*

Firefighter Safety Workshop

One of the key recommendations from the March 1995 IMRT Management Implications Workshop was the importance of involving employees in the discussion of safety - both to solicit their ideas and concerns and to communicate the commitment and actions of management. On May 23-24, 1995, the NWCG Safety and Health Working Team sponsored a Firefighter Safety Workshop at Snowbird, Utah. In attendance were nearly 100 employees representing firefighters employees around the country. The workshop was organized around three purposes:

- *Communicate and Demonstrate Commitment to Firefighter Safety*
- *Share Information on Current Safety Projects and Initiatives*
- *Establish a Working Relationship between Firefighters and Managers*

The Proceedings of the Workshop document four key findings or concepts that emerged during discussions:

- *Accountability* - firefighters expect to be individually accountable and need to have confidence that managers at all levels are accountable as well;
- *Communications* - firefighters are concerned that there is no acceptable way to question an order in a command culture when they fell the action being taken is unsafe. Firefighters would like to identify effective procedures or communication methods that will allow them to get clarification of orders with which they disagree, without fear of retribution. Some field personnel also feel the current system of upward feedback of ideas, concerns or information is inadequate.
- *Qualifications* - concern was expressed that due to the high rate of loss of experienced personnel, and due to the icnreased demands on managers' time in dealing with other issues, the skill and knowledge level of both firefighters and mangers is being eroded.
- *General Concern over Budgets, Organizations, and Staffing* - Firefighters are concerned that downsizing and restructuring is creating key organizational gaps that are not being filled in a timely manner and that the replacement pool for key positions is inadequate. The ultimate consequence is the compromising of firefighter safety.

Products from the Corrective Action Plan

A number of issues and recommendations contained in the October 1994 Corrective Action Plan directly address the topics of creating a passion for safety, involvement of

agency administrators, and monitoring performance and accountability. The products and results generated by these issues and recommendations are discussed in detail in the Accomplishments section of this report.

- B.1 - Attitudes and Leadership
- C.1 - Management Reviews of Fire Management Programs
- 3.4 - Training for Agency Administrators and Senior Incident Management Personnel
- 3.5 - Matching Qualified Incident Commanders with the Complexity of the Incident
- 3.6 - Qualifications of Fire Managers and Agency Administrators in Fire Management

IMRT Recommendations

Management involvement and commitment remains one of the keystones to improving fire safety. Knowledge of fire policy, organization, effects, and operations, as well as the integration of fire management into natural resource and land management activities, is requisite to properly organized and staffed fire management organizations and appropriate decisionmaking about suppression strategies and priorities that provide for maximum safety. Agency administrators must take responsibility for strategic management, including obtaining necessary training in wildland fire management and insuring that personnel under their jurisdiction also receive that training.

Agency administrators and fire management personnel, at all levels of wildland fire agencies and organizations, must be held accountable for their performance. Poor performance jeopardizes lives, property, and natural resources and can cost the taxpayer millions of dollars. Managers must be encouraged to assess risks and make their best judgments, with those informed decisions receiving support from upper management.

Agency administrators must obtain training in basic wildland fire concepts; personnel without appropriate training and skills must not be placed in critical fire management positions; incident management teams and miscellaneous overhead must be given true and accurate performance evaluations; and those who perform poorly in various positions must receive corrective actions or be restricted from future participation on wildfire activities.

Actions necessary by the five agency heads accomplish the recommendations include:

1. Commit, and periodically reaffirm that commitment, to safety as the paramount concern through both word and deed;
2. Ensure that agency administrators in positions with wildland fire responsibilities have the knowledge, skills, and abilities necessary to fulfill those responsibilities;

3. Ensure that individuals selected for fire management positions are qualified for those positions;
4. Ensure that agency administrators become and remain actively involved in the management of wildland fire;
5. Ensure that agency administrators, fire managers, and firefighters are held accountable for their performance and that appropriate action is taken when performance in not satisfactory;
6. Ensure that fire management staffing is adequate to assure firefighter safety;
7. Ensure that employees are involved by soliciting their concerns and suggestions and by providing information to them;
8. Ensure that management activities, including organizational restructuring and realignments; land use plans; manuals and other guidance do not jeopardize firefighter safety.

Actions

The IMRT recommends that the five wildland agency heads, the Federal Fire and Aviation Management Leadership Council, the National Wildfire Coordinating Group, and other appropriate bodies assume a leadership role in ensuring that the following specific actions take place to implement the above:

- Issue cascading statements of management commitment reinforcing and elaborating upon the Secretarial "zero tolerance" statement;
- Use the "Safety is Job #1" message (see Appendix 2, October 17, 1994, IMRT Report) as a guide for continued agency administrator involvement in wildland fire activities;
- Clearly, succinctly, and visually state the total fire management program roles and responsibilities of agency administrators, fire management staff, and on an interagency basis (see proposed BLM-specific matrices in April 1995 Programwide Management Review and in BLM Information Bulletin 95-2034, May 1995);
- Require that agency administrators with wildland fire responsibilities have or acquire knowledge, skills, and abilities commensurate with the complexities of the local situation and their responsibilities (see IMRT 3.4 and 3.6);
- Develop wildland fire and safety related competency and performance based criteria for evaluating agency administrators, fire management personnel, incident management personnel, and firefighters;
- Include safety and risk management considerations in performance-related actions, such as awards and bonuses;
- Take action when performance is not satisfactory; actions should be appropriate and commensurate with the problem and can include a variety of activities such as training, re-assignment, counseling, and not just disciplinary actions;

- Recognize and highlight the accomplishments and successes of firefighters, agency administrators, and fire management personnel through formal and informal means; especially recognize those who take action based on sound risk assessment, regardless of outcome;
- Involve firefighters and other employees; agency administrators should solicit their input on what can be done to improve safety, make good faith and timely efforts to resolve issues and problems at the lowest level, forward those issues and problems that cannot be resolved locally to higher levels;
- Provide a simple, short annual safety report to employees summarizing key statistics, accomplishments, and weaknesses.
- Develop a Code of Ethics for Fire - for firefighters, fire management, and agency administrators;
- Evaluate the training and experience necessary and develop criteria for evaluating performance of Type III/IV incident commanders.

Implications for Individuals

"Individuals must be personally committed and responsible for their own performance and accountability."

"Every Firefighter, Every Fireline Supervisor, Every Fire Manager, and Every Agency Administrator has the Responsibility to Ensure Compliance with Established Safe Firefighting Practices"

Secretaries Glickman and Babbitt
from Letter to All Employees, May 12, 1995

Just as management has responsibility to provide a safe work environment and to make, and act upon, a commitment to safety, individuals must acknowledge and act upon their own responsibility for performance and accountability. In their May 12, 1995 letter to all employees, Secretaries Glickman and Babbitt personally committed to "zero tolerance" of carelessness and unsafe actions. Each individual associated with wildland fire must make a similar commitment. Many participants at the May 1995 Firefighter Safety Workshop at Snowbird, Utah, expressed their belief that they expect to be held accountable has individuals.

In addition to addressing accountability, the firefighters at the Snowbird workshop raised two other key issues related to the individuals in firefighting safety:

(1) There is no acceptable way to disagree with orders in a command culture when individuals disagree with an action they believe is unsafe. The firefighters expressed the need for effective procedures or means of communication that will allow them to have orders changed, clarified, or understood without fear of retribution.
(2) Effective, well-understood means of communicating with firefighters do not exist in many cases. Better communication from management to firefighters is needed, as is communication from firefighters to management.

IMRT Recommendations

The IMRT recommends that:

1. Every firefighter, every fireline supervisor, every fire manager, and every agency administrator make a personal commitment to be individually accountable for safe firefighting practices;

2. Agency heads and agency administrators strive to change organizational and management cultures to allow individuals with concerns about unsafe assignments to express those concerns appropriately, without fear of retribution;
3. Agency administrators and fire management personnel strive to improve means of communication between firefighting employees and agency management;
4. That employees be considered partners in the development and execution of safe firefighting practices.

Actions

The IMRT recommends that the five wildland agency heads, the Federal Fire and Aviation Management Leadership Council, the National Wildfire Coordinating Group, and other appropriate bodies assume a leadership role in ensuring that specific actions take place to implement the above recommendations. Among possible actions that have been suggested are:

- Modify command procedures to allow good faith challenges to unsafe orders without fear of retribution;
- Train agency administrators, fireline supervisors, and firefighting personnel on effective means for employees to challenge unsafe orders;
- Develop fire "incident reports" similar to those used in aviation to report near misses, allowing employees to report problems, issues, and concerns to management;
- Inform and involve employees in developing management actions by attending meetings of employee groups and through NWCG activities;
- Agency administrators ensure that operating safety committees are in place, meet periodically with employees to discuss safety issues, raise safety (or other wildland fire issues) to higher levels if they cannot resolve them locally, and provide training and orientation for employees on how to raise safety issues and concerns;
- Employees use options currently available to raise concerns about safety and make suggestions for improvement, including informing direct supervisor, informing members of unit safety committee, and informing unit safety officer;
- Provide opportunity for employees to communicate directly to the NWCG Safety and Health Working Team to raise issues or concerns that have not been appropriately handled through other channels;
- Develop and widely distribute a simplified version of the NWCG issues process, focusing on the perspective of the employee;
- Establish Safety and Health Working Teams at the Geographic Area level, similar to existing geographic-level working teams for training and equipment, to facilitate resolution of issues raised by employees;
- Develop cascading e-mail directories to distribute minutes, notes and other information;

- Establish an occasional newsletter focusing on issues of particular interest to employees;
- Widen distribution of publications such as Fire Management Notes;
- Establish an 800 number for recorded information about new developments in safety and health and how to obtain additional information.

Policy Issues

"We...support the efforts of the agencies to address the more systemic issues of suppression preparedness, fuels management, and the wildland/urban interface. If those fundamental policy issues are not squarely addressed, the safety and health of firefighters will continue to be placed unnecessarily at risk."

Joseph A. Dear
Assistant Secretary for Occupational Safety and Health,
from Letter to Director, BLM and Chief, USFS
February 8, 1995

The October 1994 report of the IMRT identified three major areas of fire management policy not addressed in detail in the corrective action plan: preparedness, fuels management, and wildland/urban interface. The report also noted a number of issues related to the conduct of serious accident investigations.

Fire Policy Review

On December 30, 1994, the Secretaries of the Interior and Agriculture chartered a Federal Wildland Fire Management Policy and Program Review covering the full range of wildland fire management issues and policies, with special emphasis on:

- The role of fire in natural resource management, including appropriate strategies for ecosystem sustainability and other societal benefits;
- Wildland fire protection capabilities and resources needed to meet national needs;
- Use of prescribed fire and other fuel treatments needed to meet resource management objectives;
- The appropriate role of federal, state, local, and private organizations in the wildland/urban interface.

Membership on the policy review includes representatives of the five wildland fire agencies, as well as the Environmental Protection Agency, the Federal Emergency Management Agency, the National Weather Service, and the National Biological Service. Extensive public involvement, including employees, has occurred. In June 1995, a draft

report was released for public comment. Final recommendations to the Secretaries are expected in October of 1995.

Accident Investigations

A number of efforts are underway to improve accident investigation procedures and effectiveness:

- A proposed memorandum of understanding between the Departments of Agriculture and the Interior has been drafted to create joint investigations and better training and procedures for investigating serious wildland fire accidents;
- An interagency team is examining means of improving coordination between local emergency management agencies and federal land managers when serious accidents occur, as well as methods of providing greater support to local federal managers for crisis communications, stress management, and other needs;
- Communication and coordination between the wildland fire community and the Occupational Safety and Health Administration have improved dramatically; efforts are underway to improve training and program understanding and to clarify the work standards for wildland firefighting.

Fire Weather

The Report of the South Canyon Fire Accident Investigation team identified weather as a factor that "significantly contributed" to the accident. Included in the Team's report were a number of recommendations to improve the availability and communication of fire weather information to firefighters. Most of these have been implemented.

Weather information is critical for wildland fire management planning, strategy, and tactics, both in wildfire protection and suppression and in prescribed fire activities. The National Weather Service (NWS) has been a key partner with land management agencies in developing effective fire weather information systems and in providing meteorologists and other support to wildfire incidents and coordination centers.

The ability of the NWS to continue to meet the needs of the wildland fire agencies appears in jeopardy. The budget request for 1996 eliminates funding and staffing to support non-federal, non-wildfire fire weather needs. Both NWS officials and key members of Congress are publicly indicating that the NWS should not be providing services that compete with private industry and that the core mission of the NWS to collect basic weather data and conduct forecasting that focuses on public safety. Continued evolution of the NWS to concentrate on that core mission has potentially serious consequences for wildland fire activities.

The IMRT recommends that the National Wildfire Coordinating Group and the Federal Fire and Aviation Leadership Council begin to examine alternatives to NWS fire weather services before changes in the NWS program have crisis implications for wildland fire. A proactive, long-term view of how to best obtain fire weather services will ensure that firefighter safety is not jeopardized and that those services are obtained in the most effective and efficient manner.

Corrective Action Plan - Accomplishments

"This review, along with other ongoing reviews triggered by the South Canyon Fire, has been an unprecedented exercise in self-examination of management oversight and involvement relative to firefighter safety..."

Preface to the Bureau of Land Management "Fire and Aviation Programwide Management Review" Report
April 14, 1995

The October 1994 IMRT Report included a Corrective Action Plan addressing each of the recommendations of the investigation team as well as other issues and concerns related to wildland fire management. This report summarizes each issue or concern, summarizes results or products, notes additional actions needed, and identifies responsible groups for taking those actions. Appendix 1 contains a summary chart.

The corrective action plan contained two types of recommendations: (1) actions or steps that could be taken quickly to modify procedures, training, and practices and (2) more detailed analyses of issues with a request for recommendations on actions that management could take. Thus, the accomplishments to date fall into two categories: (1) changes that have been made to handbooks, guides, training courses, and (2) recommendations that are now ready for consideration by management.

Given the wide range of topics covered by the Corrective Action Plan and the complexity of many of the issues raised, the nature of the additional actions necessary varies widely. In some cases recommendations are ready for immediate consideration and implementation. In other cases additional information and analysis will be necessary. Not all recommendations are of a high priority, nor will all ultimately be implemented. Resources to address many of the recommendations are limited and many will need to be addressed in concert with other functional areas in the agencies. It is now up to the discretion and judgment of agency managers to assess how to address the recommendations and proceed. The IMRT recommends to each individual or group responsible for follow-up actions that those items and issues directly related to firefighter safety or causal factors in the South Canyon Fire fatalities be given priority consideration.

In any case, with the publication of this report, the IMRT has turned the responsibility for each item over to the appropriate management group. Those groups are accountable from this point on. The IMRT will no longer track the status and results of ongoing efforts and activities. It recommends that the Fire and Aviation Leadership Council create a mechanism for tracking results on behalf of the agency heads.

When additional action is necessary, the individual or management group with responsibility is identified in the following narratives. Most additional action will be the responsibility of one of the following groups:

Agency Heads - the Chief of the Forest Service, the Director of the Bureau of Land Management, the Director of the National Park Service, the Director of the Fish and Wildlife Service, and the Deputy Commissioner of the Bureau of Indian Affairs.

Federal Fire and Aviation Leadership Council - the national fire and aviation directors of the five federal wildland fire agencies, chartered to work together on the development and implementation of federal fire management and fire-related aviation policy.

National Wildfire Coordinating Group and Working Teams - representatives of the five federal wildland fire agencies, the state foresters, and the U.S. Fire Administration, chartered to develop coordinated, standard procedures and guidelines for safety, training, equipment, organization, education, and other issues common to wildland fire agencies; most work is accomplished through interagency working teams.

Copies of all source documents and products referred to in the following pages are available upon request; see Appendices 3 and 4.

Points of contact for follow-up action responsibility are detailed in Appendix 5.

Note on numbering system:
Two sets of issues are used. The first set begins with a capital letter followed by a number (e.g. A.2). These issues are the recommendations of the South Canyon Investigation Team and the numbering system tracks that used by that team. The second set begins with a 3 followed by another number (e.g. 3.3). These are additional issues identified by the IMRT pursuant to the third principal charge in its charter (hence the "3").

A.1 - Red Flag Program

"A national interagency review should be conducted on the National Weather Service's Red Flag Program, with emphasis on the number of watches and warnings issued. Distinguish clearly between red flags for cold fronts and high winds and red flags for lightning."

Issue Synopsis:

Red flag watches and warnings are issued to alert wildland fire personnel to weather conditions which, in conjunction with critically dry or volatile fuels, could lead to extensive wildfire occurrence and/or extreme fire behavior. Key issues concerned the possible decreased effectiveness through "over" alerting, terminology and determination of red flag criteria (i.e., local fire weather district versus Geographic Coordination Area).

The IMRT directed a task group to conduct a comprehensive evaluation of the NWS Red Flag Program, to develop recommendations to improve the effectiveness of the program, and to develop an action plan with timetable for implementation.

Results/Products:

A task group led by Bill Clark, NPS, NIFC, issued a report on May 5, 1995, containing recommendations to improve the effectiveness of the Red Flag Watch and Warning Programs. The following recommendations adopted by the NWS include, 1) Fire Weather Watch has replaced Red Flag Watch to avoid confusion in Red Flag terminology, 2) allow Fire Weather Watch for Dry Lightning to extend into the 0-12 hour time frame (to avoid over-warning for such events), 3) tighten Red Flag criteria locally. The new terminology of Fire Weather Watches/Red Flag Warnings is reflected on the NICC produced Incident Management Situation Report.

Additional Actions:

1. Ensure adequate training for both firefighters and fire managers in the difference between watches/warnings and the significance of each. Bill Clark has reviewed Intermediate Fire Behavior (S-290) and will insure watch/warning material is included in upcoming Fire Management for Agency Administrators courses.

2. Ensure that NWS Fire Weather Operating Plans include a clear statement of the difference between watches and warnings.

3. Complete the comprehensive review of the NWS Red Flag Program (all NWS field offices were surveyed on the number of Red Flag Watches/Warnings issued from 1988-1994 broken down by month and weather event).

Responsibility:

1. Bill Clark and Fire Management for Agency Administrators Steering Committee
2. National Weather Service National and Regional Fire Weather Program Leaders
3. National Weather Service, National Fire Weather Program Leader,

A.2 - Use of Fire Behavior Analysts

"A fire behavior analyst should be available or requested whenever a fire weather meteorologist is requested for a fire coordination center. A fire behavior analyst can relate the weather forecast to how fires burn in terms of rate of spread, flame length, and fireline intensity. These are terms that firefighters understand. An alternative is establishing regional centers for consolidating and interpreting fire behavior and weather information during periods of high fire activity."

Issue Synopsis:

Critical fire behavior and weather indicators of rapidly escalating conditions must be recognized by both managers and firefighters. Fire weather and fire behavior forecasts are two of the tools available to assist managers and firefighters in their development of strategy, tactical operations, and other decisions critical to firefighter safety. These tools must be utilized to their fullest extent possible to ensure that decisions are based on the best available information. Since individual administrative units may not have fire behavior analyst capability on their staffs, it is not always possible to rapidly access fire behavior intelligence on units experiencing heavy initial and extended attack activity. It is also unlikely that sufficient resources exist to provide a qualified fire behavior analyst to both units having heavy fire activity and to Incident Management Teams assigned to large fires. The concept of regional or centralized centers is one method of dealing with this situation.

A.2.a. The IMRT agreed with the South Canyon Investigation recommendation and directed the National MAC Group to develop proposed amendments to Geographic Area Mobilization Guides to reflect a fire behavior analyst will be requested whenever a fire weather meteorologist is requested for a coordination center.

A.2.b. The IMRT further directed the Training Working Team's Fire Behavior Subcommittee to evaluate the concept of service centers for fire weather and fire behavior, and if feasible, to implement the concept through the National MAC Group and the Geographic Areas.

Results/Products:

A.2.a. Guidance on the first recommendation, "a fire behavior analyst will be requested whenever a fire weather meteorologist is requested for a coordination center", was prepared and issued to the Geographic Areas by the National MAC Group on September 16, 1994. Following National MAC Group consideration in the Spring of 1995, the National MAC Group rescinded the 1994 memorandum and issued interim guidance to the Geographic Areas indicating they "should consider" rather than "will" request a fire

behavior analyst whenever a fire weather meteorologist is requested for a coordination center.

A.2.b. Evaluation of the feasibility of service centers for fire weather and fire behavior was conducted by a working group chaired by Bill Clark, NPS, NIFC. This group studied the concept of mandated service centers and recommended against implementation. The work group recommendation was based on four factors: 1) Geographic centers are too far removed to effectively transmit site specific fire weather and fire behavior information to Type 3 and 4 Incident Commanders, 2) the skills required are not currently available in the training curriculum, 3) the additional requirement for Fire Behavior Analysts and Incident Meteorologists would put high demand on an already limited resource, and 4) the system is currently able to provide technical specialists through the normal ordering process which managers should be allowed to use as needed and within overall national priorities. These findings and recommendations were published in the task group report dated February 8, 1995. The IMRT reviewed and accepted the work group recommendation.

Additional Actions:

A.2.a. Ensure that the guidance for requesting a fire behavior analyst whenever a fire weather meteorologist is requested is published in Geographic Area Mobilization Guides.

Responsibility:

A.2.a. Geographic Area Coordinating Groups and National Interagency Fire Center Directors

A.3 - Communicating Fire Weather Forecasts

"Fire weather forecasts must be communicated to firefighters on initial attack and extended attack incidents."

Issue Synopsis:

Fire weather forecasts are issued twice daily during the fire season and are broadcast over some fire agency network radios. However, most agencies do not routinely broadcast these forecasts. Additionally, all fire personnel have a personal responsibility to make sure they have the current fire weather forecast.

A.3.a. The IMRT directed the National MAC Group to amend the National Mobilization Guide requiring timely communication of fire weather forecasts to firefighters on initial and extended attack incidents.

A.3.b. The IMRT recommended NWCG's ICS Working Team revise the Incident Commander Type 3 and 4 position task books to list specific fire weather information which must be obtained during initial and extended attack assignments.

Results/Products:

A.3.a. Direction to Geographic Area Coordinating Groups concerning communication of fire weather forecast information was included in the 1995 National Mobilization Guide on page 5., paragraph 13.8.

A.3.b. The ICS Working Team reviewed the Incident Commander Type 3 and 4 position task books and determined that inclusion of specific training or knowledge items in the task books is not appropriate since task books are evaluation documents only. However, the ICS Working Team does agree with a need for a listing of specific fire weather information and believes a more appropriate document is the Fireline Handbook (NWCG 410-1).

Additional Actions:

1. Ensure that direction on communicating fire weather forecast information is included in Geographic Area Mobilization Guides and Dispatch Center operating guides.

2. Ensure specific fire weather information required for initial and extended attack is included in the next revision of the Fireline Handbook and issue interim guidance prior to Handbook revision.

Responsibility:

1. Geographic Area Coordinating Groups
2. Interim guidance - Federal Fire and Aviation Leadership Council
3 Revised Fireline Handbook - NWCG ICS Working Team

A.4 - Spot Weather Forecasts

"Spot weather forecasts should be requested for fires that have potential for extreme fire behavior or exceed initial attack or are located in areas for which red flag warnings have been issued."

Issue Synopsis:

The IMRT was in general agreement with the requirement for spot weather for fires exceeding initial attack but concluded a study was needed on the expected increase in spot forecast requests and ability of NWS forecasters to handle the additional workload. The study was also to determine if spot forecasts are available nationwide by NWS forecasters trained in fire weather and to address the issue of several spot forecasts issued for fires in a small area versus one spot for those incidents.

Based on conclusions of the study, if necessary, a proposed amendment to the Fireline Handbook was to be prepared.

Results/Products:

The NWCG's ICS Working Team, chaired by John Philbin, BIA, was charged with conducting the study and developed the following amendment to the Fireline Handbook: "Spot weather forecasts should be requested for fires that have potential for extreme behavior or exceed initial attack or are located in areas for which Red Flag Warnings have been issued".

Additional Actions:

Publish interim direction on spot fire weather forecasts for the 1995 fire season and publish long term in the revised Fireline Handbook. Publish NWS report on spot fire weather forecasts.

Responsibility:

1. Interim direction on spot forecast - Federal Fire and Aviation Leadership Council
2. Revised Fireline Handbook - NWCG ICS Working Team
3. Publish NWS Report - NWS, National Fire Weather Program Leader

A.5 - NOAA Weather Radio

"NOAA Weather Radio forecasts should not be substituted for fire weather forecasts. NOAA Weather Radio does not broadcast fire weather forecasts, but forecasts directed to the general public."

Issue Synopsis:

The IMRT agreed with the South Canyon Investigation recommendation and directed the NWCG's ICS Working Team to develop an appropriate amendment to the Fireline Handbook.

Results/Products:

The ICS Working Team developed the proposed for inclusion in the revised Fireline Handbook. Specifically, the amendments are to Chapter 1 (Initial Attack) of the Fireline Handbook. On page 3, When a Fire is Reported, under "Obtain the Following Information" add "Most Recent Fire Weather Forecast. Remember, NOAA Weather Radio Forecasts do not replace a Fire Weather Forecast, only supplement it". On page 4, under "Look for Local Weather Indicators" add "If weather conditions are much different from that predicted, especially wind speed or direction, request a spot weather forecast".

Additional Actions:

Interim publication for the 1995 fire season and long term publication in the revised Fireline Handbook and distribution through the Publications Management System.

Responsibility:

1. Issue interim direction - Federal Fire and Aviation Leadership Council
2. Revised Fireline Handbook - NWCG ICS Working Team

A.6 - Technical Transfer of Fire Danger & Fire Behavior Technology

"A national interagency strategy and implementation plan should be developed to improve technical transfer of fire danger and fire behavior technology."

Issue Synopsis:

Assessments of fire danger are prerequisite to successful planning for fire suppression needs. As conditions worsen in terms of increasing fire danger, wildland fire management agencies must prepare for increased activity. All agencies need an understandable and easy to use system for assessing fire danger. Prediction of the behavior of individual fires in terms of spread rates and burning intensity can be a useful aid in determining strategies, tactics, and strongly influential in on-the-ground personnel assignments. Available technology concerning fire behavior prediction has made significant advances in the last 20 years.

After reviewing the South Canyon Investigation Report Recommendation, the IMRT recommended that the portion of the recommendation dealing with fire danger rating be implemented but that the portion of the recommendation related to fire behavior technology be tabled until the current fire behavior curriculum implementation is complete and an evaluation of the effectiveness of these courses can be completed. The refined recommendation reads, "A national interagency group develop an implementation plan to improve technical transfer of fire danger technology".

Results/Products:

A task group led by Wayne Mitchell, California Department of Forestry & Fire Protection, developed an in-depth strategy and implementation plan. This plan includes all facets of the implementation plan desired by the IMRT including National Fire Danger Rating System (NFDRS) technology transfer methodology, training courses and workshops needed, target groups for technology transfer, responsibility for course development and other tasks, time frames, and evaluation procedure.

Additional Actions:

Implement the five major tasks outlined in the report:

1. NFDRS Training at the National Advanced Resource Technology Center
2. Develop NFDRS regional training package
3. Develop other NFDRS training products
4. Develop local, regional and national NFDRS operating plans
5. Present the Introduction Overview training module to agency administrators

Responsibility:
Tracking the implementation of the tasks: NWCG National Advisory Group on Fire Danger Rating (NAGFDR)

A.7 - Fire Weather Program

"The National Weather Service fire weather forecast program is a critical part of the Interagency Fire Management Program. It is essential that it be maintained at present levels to ensure firefighter safety."

Issue Synopsis:

NWS fire weather support to firefighting agencies is expected to significantly increase due to escalating forecast demands (more spots, all-risk activities) and greater training requirements. NWCG agencies and the NWS must work closely together to ensure these needs will be fulfilled by the modernized NWS.

Statistics on current and future fire weather needs were gathered by the NWS and presented at the 1994 NWCG-sponsored Intergovernmental Fire Weather Users Summit. Also, there is an ongoing pilot study (National Fire Weather Risk Reduction Project) of modernized fire weather forecasts and services. The results of both the Summit and Risk Reduction Project must be carefully studied. The IMRT fully concurred and directed this study to occur.

Results/Products:

Gardner Ferry, of the NWCG National Fire Weather Advisory Group (NFWAG), issued a final report on April 17, 1995. Essentially, this report summarizes ongoing efforts to coordinate efforts and services between the NWS and the interagency fire management program. A major concern cited in the report concerns proposed NWS budget cuts. The proposed budget cuts to the NWS Fire Weather Program and total elimination of the NWS Agriculture Program (15 meteorologists are cross-utilized as fire weather forecasters), if implemented, will have a major impact on fire weather support to fire management agencies. The report states:

> "The proposed cut theoretically only effects non-federal, non-suppression activities. While this should not directly pose a threat to the safety of firefighters on wildfires, the interagency nature of the fire management program and cross-utilization of firefighters in prescribed fire activities makes it impossible to isolate the suppression portion of the fire weather program from the other activities. If this budget cut occurs the potential for decreasing firefighter safety will develop and should be timely addressed by NFWAG."

Additional Actions:

Continued efforts between the NWS and the Interagency Fire Management Program to ensure the forecast demands of the fire program can be met.

Responsibility:
NWCG National Fire Weather Advisory Group

A.8 - Organized Live Fuel Moisture Sampling Network

"An organized live fuel moisture sampling network should be established for Gambol Oak. Strategy and tactics should be adjusted on the basis of this information."

Issue Synopsis:

To predict expected fire behavior it is necessary to gather data from many sources and to utilize that data in analyses that have been determined to be scientifically based. Predicted fire behavior is essential in developing strategies and tactics. Certain individual units collect live fuel moisture in selected fuel types and use that information to assist them with fire behavior predictions. This work is not currently required nor are there uniform processes for collecting, utilizing and distributing the data and subsequent analyses.

The IMRT agreed with the recommendation of the South Canyon Investigation Report, but expanded it beyond Gambel Oak. The IMRT chartered a task group to identify wildland fuel types in which predicted fire behavior can be strengthened through the collection and management of live fuel moisture data, that portion of the fuel type (i.e. foliage, stems, boles, blades) on which live fuel moisture data can provide data for analyses, overall methodology for data collection and distribution, and use of the data in fire behavior predictions. The final team report was also to address resources needed to implement the proposal, the magnitude of improvement resulting from data use, and a cost/benefit analysis of implementing such a program.

Results/Products:

An interagency team led by Jim Saveland, FS Research, completed a comprehensive report titled "Live Fuel Moisture" and provided that report to the IMRT.

Additional Actions:

Implementation of the "Live Fuel Moisture" report.

Responsibility:

Federal Fire and Aviation Leadership Council

B.1 - Attitudes and Leadership

"Attitudes and leadership are universal factors that influence safe fire suppression. The Interagency Management Review Team should explore actions that will strengthen sensitivity to basic safety standards so they permeate every fiber of our strategy, tactics, and basic fire operations."

Issue Synopsis:

There is a dire need to create a passion for compliance with the basics of safe fire suppression at all levels of wildland fire agencies. Attitudes of leadership at all levels must support excellent and safe fire management. Agency Administrators must define expectations for safe fire operations, share these with agency personnel, and demonstrate their support of safe fire management. Positive attitudes which are set by leadership for safe fire management must be institutionalized to become part of our core beliefs and values. Fire safety policy, rules and procedures all need to be looked at with the help of people outside the wildland fire community to see if new approaches and methods are needed.

The IMRT agreed with the South Canyon Investigation recommendation and tasked a work group led by Mark Boche, FS, to develop a contract Request For Proposals (RFP) designed to secure both short- and long-term strategies for institutionalizing a strengthened fire-safety sensitivity throughout the leadership and among employees in all agencies associated with wildland firefighting. Desired outcome is that leadership at all levels will set and demonstrate a clear commitment to excellent fire safety and fire management and that standards, policies, and orders be understood by fire personnel and fire agency administrators along with their roles, responsibility and accountability.

Results/Products:

The RFP was issued on May 8, 1995 with a 30 day window for submitting proposals. The tentative date for contract award is August 17, 1995. Bill Bradshaw, FS Fire Business Manager, Washington, DC, is the Contracting Officer's Representative (COR) for the contract and a team of subject matter experts (SMEs) has been identified to work with the successful contractor. Issuing the RFP completed IMRT action.

Additional Actions:
Contract award, development of the contracted products, and individual agency implementation of the contract results will all occur after the IMRT is "sunsetted". As COR, Bill Bradshaw will have responsibility for monitoring progress of product development. Target date for delivery of the products identified in the RFP is September, 1996. Products will be provided to agency directors for action.

Responsibility:
1. Monitor contract through point of final product acceptance - Bill Bradshaw
2. Implementation of results of contract - Bureau/Agency Directors

B.2 - Training Emphasis on the Basics

"The Interagency Management Review Team needs to evaluate current training to assure emphasis is placed on the basics of fire behavior, firefighting strategies and tactics, the 10 standard Fire Orders, and the 18 Watch Out Situations."

Issue Synopsis:

The interagency community has, in response to numerous incidents over the last few years, developed a high quality fire behavior, strategy, tactics, and safety training curriculum. A careful review of all critical course work is necessary to insure that proper emphasis is placed on the basics of fire behavior, firefighting strategies and tactics, the 10 Standard Fire Orders, the 18 Watch Out Situations and the "Look Up Look Down, Look Around" training materials. There may be a need for increased strategy and tactics training at squad boss and lower qualification levels.

The IMRT concurred and directed the NWCG Training Working Team to charter a group to review the adequacy of material currently presented in Basic Firefighter (S-130), Introduction to Fire Behavior (S-190), Intermediate Fire Behavior (S-290), Basic Wildland Fire Behavior Calculations (S-390), and Crew Boss (S-230). The review was to examine each course with the 10 Standard Firefighting Orders, 18 Watchout Situations and "Look Up, Look Down, Look Around" and determine if adequate attention to the basics of firefighter safety is addressed in course contents, provide recommendations how material may be presented to trainees and to explore whether a basic strategy and tactics course should be presented prior to crew boss training.

Results/Products:

A group led by Jim Stumpf, NWCG Executive Secretary, submitted a report to the IMRT on February 25, 1995. The report outlines several enhancements to the courses listed above, recommends development of a strategy and tactics course targeted at the Firefighter Type 1, and recommends that training development, training delivery, and instructors should all meet the prescribed NWCG standards. It concludes the actions directed by the IMRT.

Additional Actions:

Implementation of the recommendations from the February 25, 1995, task group report including the Action Plan developed as a portion of the report.

Responsibility:

1. NWCG Training Working Team
2. NIFC Course Development Group

B.3 - Use South Canyon Lessons in Training

"The South Canyon Fire" incident should be used in the development of a training exercise for use by agency administrators, fire managers, dispatchers, and firefighters. The training exercise should be developed by field level firefighters."

Issue Synopsis:

The IMRT determined that a stand-alone course was not needed as emphasis items could be incorporated into existing training where appropriate. Lessons learned may be used where appropriate to advance knowledge and reduce possibility of recurrence. Lessons learned must be presented in a variety of wildland situations/scenarios, not specifying the South Canyon incident, since similar conditions can occur in a variety of situations. The IMRT tasked the NWCG Training Working Team to incorporate lessons learned into course curriculum as appropriate.

Results/Products:

The NWCG Training Working Team charged the independent group led by Jim Stumpf (see IMRT B.2 above) to also address this recommendation. The group concurred with the IMRT recommendation that a stand-alone course was not needed. The group consulted with course developers at NIFC concerning several opportunities where lessons learned will be incorporated in course revisions. Lessons learned are currently being integrated into the Crew Boss (S-230) course and Fire Management for Agency Administrators, and opportunity was identified with the Intermediate Fire Behavior (S-290) course. The Advanced Incident Management (S-520) course was revised in January and these emphasis items were provided to the Command and General Staff (S-420) Steering Committee. The results are published in the February 25, 1995, report from the task group which addresses both IMRT B.2 and IMRT B.3.

Additional Actions:

Continue to explore opportunities to incorporate lessons learned from the South Canyon Fire into new or revised course curriculum. Incorporate lessons learned in the Intermediate Fire Behavior (S-290) and Command and General Staff (S-420) courses where appropriate. Complete works in progress and schedule future revisions to include South Canyon Fire lessons learned.

Responsibility:

1. NWCG Training Working Team
2. NIFC Course Development Group

B.4 and B.7 - Fire Shelter Training

B.4 - "The Investigation Team recommends that the National Wildfire Coordinating Group develop mandatory fire shelter training courses and implement them prior to the 1995 fire season. The main course should be required every 2-4 years with yearly refresher training. Courses should emphasize timed practice deployments, proper deployment practices, deployment in high winds, and site selection."

B.7 - "'Standards for Survival' and 'Look Up, Look Down, Look Around' training materials were developed in response to previous entrapment investigations. The Team recommends that all firefighters be required to take these subjects and review them every two years to maintain firefighting qualifications."

Issue Synopsis:

The current fire shelter training course is adequate relative to information and technology available for presentation. However, there is no interagency standard for wildfire suppression safety and fire shelter training. Course presentations must emphasize that the only successful shelter deployment is the one that was *prevented.* Prevention is best accomplished by following the training provided in "Standards for Survival" and "Look Up, Look Down, Look Around." It is imperative that all agencies institute mandatory fire safety training which covers the above existing packages. The frequency of this training needs to be determined.

The IMRT modified the recommendations of the South Canyon Investigation Report. They charged the NWCG Training Working Team and ICS Working Team to take appropriate steps to: 1) design a wildfire suppression safety training package to include information provided in "Standards for Survival", "Look Up, Look Down, Look Around", fire shelter deployment, and any other relevant fireline safety information; and incorporate results and research from B.5/B.8 into upgrading fire shelter training as soon as it becomes available; and 2) determine an appropriate frequency for initial wildfire suppression safety and refresher training and include standards for initial and follow up refresher training as part of the Wildland Fire Qualification Subsystem Guide (NWCG 310-1).

Results/Products:

1. The Training Working Team (TWT) identified this item as a joint responsibility with the Safety and Health Working Team (SHWT). The SHWT reviewed existing safety training materials available and felt it unnecessary to "package" existing materials as no revisions were needed. Basic Firefighter (S-130), a mandatory course, includes fire shelter training and "Standards for Survival". Intermediate Fire Behavior (S-290) includes "Look Up, Look Down, Look Around". The SHWT is also developing a

course titled "Firefighter Survival" which requires applying the above basics in a series of scenarios, based on actual situations, including South Canyon.

2. The ICS Working Team established, on May 16, 1995, an IMRT Project Action Plan which provides that: 1) initial mandatory safety training is in place since every firefighter is required to take Basic Firefighter (S-130) before participating in a fireline assignment and 2) the Wildland Fire Qualification Subsystem Guide (NWCG 310-1) will be modified to state: "All personnel who may be subject to assignment on the fireline shall have annual safety refresher training in fire shelter deployment, the 10 Standard Orders, and the 18 Watch Out Situations."

Additional Actions:

1. Provide immediate interim direction establishing the annual safety refresher training requirement pending modification of the Wildland Fire Qualification Subsystem Guide (NWCG 310-1).

2. Include annual safety refresher training requirement in the 1996 update of the Wildland Fire Qualification Subsystem Guide (NWCG 310-1).

Responsibility:

1. Federal Fire and Aviation Leadership Council
2. NWCG ICS Working Team

B.5 and B.8 - Shelter Deployment Sites and Safety Zones

B.5 - "The Interagency Management Review Team should charter a group to develop guidelines for adequate deployment sites and safety zones in different heat and flame scenarios to show the value and the limitations of the fire shelters. Follow-up training should include recognition of survivable shelter deployment sites and safety zones."

B.8 -" Fire shelter training materials should be revised to stress discarding packs and equipment when escape is questionable and that it is no longer acceptable to take packs and equipment into fire shelters."

Issue Synopsis:

Work is currently on-going regarding deployment sites and safety zones. Recommendation B.8 refers to the fact that fusees inside a firefighter's pack in one deployed shelter ignited. The presence of field packs as beneficial to firefighter comfort/safety in the shelter has been demonstrated. Before making a decision concerning the issue, subject matter experts must look at all parameters of the issue, including time frames necessary for a successful deployment, and whether fusees should be carried inside a firefighter pack.

The IMRT concurred with the South Canyon Investigation Report recommendations and directed two actions: 1) the Missoula Technology Development Center (MTDC) was to provide information regarding Fire Shelter Deployment Guidelines to the NWCG Training Working Team and 2) the Training Working Team was to integrate the appropriate information into the current fire shelter training module of the wildfire suppression safety training package.

Results/Products:

Dick Mangan, Fire Program Leader at the MTDC, submitted a report on May 5, 1995, outlining those guidelines for consideration in updating the fire shelter training module of safety training. In addition, the paper stated they are updating the two fire shelter training courses ("YOUR FIRE SHELTER", PMS 409-1 and "YOUR FIRE SHELTER - BEYOND THE BASICS, 1995", PMS 409-2) which will both be available through the Publications Management System at NIFC this Spring. The accompanying video will be revised upon completion of ongoing fire shelter development work at MTDC. However, Dick Mangan notes in his presentation to the IMRT that guidelines and formulas can not be substituted for actual experience.

Additional Actions:

Integrate the Mangan report into the current fire shelter training module and certify/issue the revised course.

Responsibility:

1. NWCG Training Working Team
2. NIFC Course Development Group

B.6 - Fire Behavior/Fire Weather Training

"Fire behavior and fire weather concepts should be reviewed in training each year for all fire managers."

Issue Synopsis:

The IMRT determined that the term fire managers in this recommendation means fire management officers at the field (local, management unit, state/region, etc.) level. These fire managers must be proficient in critical aspects of their assigned duties, and have an operational understanding of fuels, weather and topography as they relate to fire weather, fire danger and fire behavior and how these apply to pre-attack planning, prioritization of fires, allocation of resources, etc. A "Fire Program Management" training course which will provide fire managers with increased knowledge, skills and abilities in using available tools to evaluate fire behavior and fire danger, is currently under development by an interagency group, headed by the National Advanced Resource and Technology Center. Information from this course will be suitable for development of a refresher training exercise which would meet the investigation team recommendation.

The IMRT concurred with the recommendations of the South Canyon Investigation Report and directed the following three actions: 1) insure that appropriate fire weather, fire behavior, and fire danger material is included as part of the "Fire Program Management" training course, 2) develop mandatory refresher training for fire management officers to annually supplement the "Fire Program Management" training course and 3) "Fire Program Management" or an agency determined equivalent, and refresher training, will become mandatory training for all unit level fire management officers.

Results/Products:

1. The Fire Program Management Steering Committee strengthened the fire weather, fire behavior and fire danger rating portions of the course in December. The new course is targeted for testing and instructor hand-off November 28, 1995.
2. The Fire Program Management Steering Committee recommended that each agency should determine annual refresher needs from available courses (Intermediate Fire Behavior (S-290), Introduction to Fire Behavior Calculations (S-390), National Fire Danger Rating System, etc.) and require Fire Management Officers to review/conduct fire behavior/fire weather concepts refresher training on the unit.
3. To be accomplished when the Fire Program Management course is made available to the Geographic Areas.

Additional Actions:

1. Complete field implementation of the new Fire Program Management course following instructor hand-off November 28 - December 7, 1995.

2. Require Fire Program Management, or an agency determined equivalent, for all unit level Fire Management Officers.

3. Require all unit level Fire Management Officers to annually refresh fire weather and fire behavior concepts as they relate to potential fire behavior on their unit.

Responsibility:

1. Fire Program Management Steering Committee, Laurie Perrett and Bonnee Turner
2. Federal Fire and Aviation Leadership Council
3. Federal Fire and Aviation Leadership Council

C.1 - Management Reviews

"We recommend a management review of the Fire and Aviation Programs for the BLM State of Colorado to address policy direction; accountability mechanisms; training and qualifications of personnel; and staffing including budget, workload, and FTE controls."

Issue Synopsis:

The South Canyon Investigation Report recommendation was concurred with by the IMRT who requested to the Director and Chief that work begin on it immediately. In addition, input received during the course of the IMRT's deliberations suggested there may be a variety of problems outside of Colorado that could be identified and corrected on a BLM-wide basis. Suggestions were also made to the IMRT that it would be useful to conduct a review of Rocky Mountain Region fire and aviation management programs.

The final IMRT recommendation directed the following:

1. Conduct a management review of the fire and aviation programs for BLM Colorado to address policy direction; accountability mechanisms; training and qualifications of personnel; and staffing including budget, workload, and FTE controls.
2. Conduct a single BLM-wide management review of the fire and aviation programs that includes all the states. Coordinate this review with the BLM Colorado review discussed above.
3. Conduct a management review of the fire and aviation programs in Forest Service Rocky Mountain Region addressing the same items listed under item 1. above.

In addition to the specific items mentioned in Investigation Report Recommendation C.1., also consider interagency coordination and cooperation, role of coordination centers, and extended initial attack IC skills/complexity of incident in all of the management reviews.

Results/Products:

1. The review team, led by Ed Spang, Special Assistant to the BLM Director, completed the review and issued the report "Management Review of the BLM Colorado Fire & Aviation Programs" on March 23, 1995. This report contains 56 recommendations in the following categories: Policy Direction and Program Guidance, Firefighter Safety and Risk Management, Planning, Organization and Program Management, Accountability Mechanisms, Coordination and Cooperation, and Training and Qualifications. On March 24, 1995, BLM Acting Director Mike Dombeck issued two Instruction Memorandums directing development of action plans and implementation of all recommendations contained in this report.

2. The review team, led by Bill Calkins, BLM New Mexico State Director, completed the review and issued the report "Bureau of Land Management Fire and Aviation Programwide Management Review Report" on April 14, 1995. This report contains 22 recommendations in the following categories: Accountability /Involvement, Policy/Direction, Training/Experience, and Issues Needing Additional Review. Also contained within the report is an Instruction Memorandum signed by BLM Acting Director Mike Dombeck on April 14, 1995, directing implementation of all recommendations and development of an action plan to track that implementation.

3. The review team, led by Dennis Pendleton, FS Operations Director, National Interagency Fire Center, completed the review and issued the report "Fire and Aviation Program Management Review, USDA - Forest Service, Rocky Mountain Region" on March 27, 1995. This report contains 72 recommendations in the following categories: Policy and Direction, Line Officer Accountability, Commitment and Skills, Preparedness Planning, Fire Organization, Interagency Cooperation, and Aviation Planning and Operations. Also contained within the report is a memorandum signed by FS Chief, Jack Ward Thomas on March 27, 1995, directing implementation of all recommendations and development of an action plan to track accomplishments.

Additional Actions:
Implementation of the recommendations contained in the reports.

Responsibility:
Director, BLM
Chief, USDA-FS

C.2 - Work, Rest, and Rotation Guidelines

"The review should also address the implementation of National Wildfire Coordinating Group's work, rest, and rotation guidelines."

Issue Synopsis:

The Forest Service has issued Service-wide guidance on work-rest, rotation, and rest and recuperation (R&R) that, in some cases, has not been adopted by all wildland fire fighting agencies. Forest Service guidance on work-rest provides for one hour of rest/sleep for every two hours of work/travel (not accepted by all), on length of assignment requires 14 day minimum and 21 day maximum on "lower 48" incidents and 21 days maximum on Alaska incidents (accepted by all), and on R&R requires one full day of rest for each 14 day assignment and two days rest for each 21 day assignment with R&R at the home unit acceptable (not accepted by all).

The IMRT enhanced the South Canyon Investigation Report recommendation and directed an ad hoc NWCG working group to develop and implement work-rest, rotation and R&R guidelines that are accepted by all federal wildland fire fighting organizations.

Results/Products:

A task group led by Bill Ward, Fire Business Manager at NIFC, was convened to develop accepted interagency guidelines. On May 15, 1995, the task group published NWCG AMENDMENT 95-1 to the INTERAGENCY FIRE BUSINESS MANAGEMENT HANDBOOK, effective on that date. This amendment to section 12.7 of the Handbook establishes guidelines for Work/Rest, Length of Commitment and Rest and Recuperation. Since the Handbook is policy for all the Federal agencies, this completes the directed IMRT action.

Additional Actions:

None Required

Responsibility:

N/A

D.1 - Planning for Severity

"As part of the management review, special attention should be given to analysis of how all federal, state, and local firefighting organizations plan and conduct fire operations to respond to wide variations in fire severity from season to season."

Issue Synopsis:

Do all wildland fire agencies plan and conduct fire operations to respond to the wide variations in fire severity from season to season? Are there common standards and criteria used to plan and accomplish needed actions responding to fire severity? Who is responsible for these plans and actions?

The IMRT concurred in the South Canyon Investigation Report recommendation. In addition, the IMRT further directed that the analysis address who is responsible to plan, coordinate and implement operations in response to season severity.

Results/Products:

An interagency working group delivered a report to the IMRT on May 19, 1995. This report contains two key recommendations:

1. Evaluation and monitoring of seasonal severity must occur on a year round basis and be recognized as PRIORITY work. Multiple year effects must be recognized and overall analysis must be a regular piece of business for all agencies and units. Results should not only be used to secure additional funding but should be used to support strategic and safety related program adjustments, as well.

2. The role of Geographic Area Coordinating Groups should be defined regarding severity assessments and requests, and Geographic Area Coordinating Groups should define "severe conditions" for their area and work to coordinate mitigation actions. Assessments and requests will be initiated at the field level and processes must be in place to allow assessment and mitigation to be simply and easily accomplished. Assessments and requests should by consolidated and discussed by the Coordinating Group to ensure efficiency prior to forwarding to national offices. Communication strategies and plans must be developed by Coordinating Groups to meet all internal and external needs and we should be consistent and efficient in both our operations and messages.

Additional Actions:

Consideration of the recommendations from the working group and implementation as appropriate.

Responsibility:
Federal Fire and Aviation Leadership Council in conjunction with National Wildfire Coordinating Group

D.2 - Drought Monitoring

"Procedures should be established to monitor the level of drought at representative fire weather stations. Present fire danger levels should be compared to historic averages and worst case conditions, and the selection of appropriate suppression response should be adjusted on the basis of this information."

Issue Synopsis:

The IMRT agreed with the recommendation and anticipated that National and Geographic Multi-Agency Groups would utilize drought information to compare current fire danger levels with historic averages and do needed projections and actions.

The IMRT assigned the NWCG Fire Behavior Committee and the National Fire Weather Advisory Group to survey agencies for current procedures and ongoing study groups relating to drought and to establish procedures for monitoring the level of drought at representative fire weather stations.

Results/Products:

The National Fire Weather Advisory Group (NFWAG) responded to the IMRT recommendation in April, 1995. While NFWAG agreed that "some consideration of drought would be valuable in preparedness planning, we are concerned that current workloads and resource constraints will make detailed monitoring of drought conditions a very low priority". In addition, NFWAG response stated that "The National Fire Weather Advisory Group does not have the resources available to produce the desired products. We recommend this recommendation be refined [by the IMRT] and referred to a USDA Forest Service research facility". The Director of Forest Fire and Atmospheric Sciences Research for the Forest Service agrees with this recommendation.

Additional Actions:

1. Develop system to apply existing knowledge about drought.
2. Decision on which drought index (Palmer or Keetch-Byram) to use.
3. Decision on ongoing responsibility for operation of system.

Responsibility:

1. Director of Forest Fire and Atmospheric Sciences Research, USDA Forest Service
2. NWCG National Fire Weather Advisory Group and NWCG National Advisory Group on Fire Danger Rating
3. NWCG Information Resource Management Working Team, National Fire Weather Advisory Group, and National Advisory Group on Fire Danger Rating

3.1: Incident Meteorologist Required For All Type I Wildfire Incidents

Issue Synopsis:
NWS Incident Meteorologists (IMET) should be ordered as part of each Type I team's standard order during wildfire incident mobilization. Certain scenarios could develop where teams may not need a meteorologist on each incident, such as when two or more IMETs are located in close proximity to one another. In that case, one or more IMETs could be shared by the teams. Incident Commanders can take appropriate measures, but must ensure that sufficient weather information is available to improve safety and minimize risk to firefighters.

The IMRT asked the National MAC Group to implement this recommendation for the remainder of the 1994 fire season, which was done. Further, the IMRT requested that the National MAC Group incorporate this recommendation into the National Mobilization Guide for the 1995 season.

Results/Products:
The recommendation was implemented by the National MAC Group for the remainder of the 1994 fire season, pursuant to a memorandum from Tom Allen, IMRT Chair, to Doug Erskine, National MAC Group Chair. The recommendation was also incorporated in the 1995 National Mobilization Guide page 14. section 22.5, paragraph two.

Additional Actions:
No additional actions are required.

Responsibility:
N/A

3.2: Standardized Spot Fire Weather Forecasts

Issue Synopsis:
While there are standard formats for fire weather and fire behavior forecasts issued on incidents, no such standard format exists for spot fire weather forecasts. Since spot forecasts are often received verbally by field personnel, filling out a standard form would reduce errors, and allow for faster and easier transcription.

The IMRT recommended the following:

1. A standard format for spot fire weather forecasts will be developed by the National Weather Service.
2. Format will be reviewed by the NWCG's Fire Behavior Committee and National Fire Weather Advisory Group.

Results/Products:
A final draft of the spot fire weather forecast format was developed by a task group led by Rick Ochoa, NWS, and forwarded to the NWCG Fire Behavior Committee and to Jeanne Hoadley, NWS National Fire Weather Program Leader for review. The review product is still being circulated within the NWS for either modification or approval.

Additional Actions:
NWS to forward standard spot fire weather format to NFWAG and NWCG Training Working Team's Fire Behavior Subcommittee. After agreement on format, NWS to implement on nationwide basis.

Responsibility:
1. Review and agree on format - NWCG National Fire Weather Advisory Group and NWCG Training Working Team's Fire Behavior Subcommittee
2. Implement - NWS, National Fire Weather Program Leader

3.3: Shared Resources (Smokejumpers and Hotshots)

Issue Synopsis:
During the 1994 fire season Smokejumpers and Hotshot crews were used extensively and frequently were in short supply. The severity of the fire season caused the wildland firefighter agencies to utilize these resources in different combinations and situations than is normally intended, highlighting the need to review these programs with particular emphasis in the following areas: Mission Compatibility, Operational Procedures, Training, Safety and Agency Direction. The IMRT recommended interagency program reviews of both the Smokejumper and Hotshot programs to provide immediate remedial actions which could be implemented for the 1995 fire season and to identify areas requiring more extensive review.

Results/Products:
Reports on both programs were completed March 1, 1995. The Hotshot report identified the following issues: Training, Fatigue, Inexperienced Operations Personnel, Management Oversight, and Program Mission. The report made 16 recommendations in the areas of Mission, Operations, Training, Safety, and Program Administration. The Smokejumper report identified the following issues: Mission Compatibility, Operational Procedures, Training, Safety, and Agency Direction. The report made 31 recommendations in these areas.

The IMRT reviewed both reports and the recommendations contained within them. Many of the recommendations contained within the Smokejumper report went beyond the scope of the assignment and appear to be unrealistic and impractical. Many of the recommendations apply to all firefighters and support personnel, not just smokejumpers. The IMRT is concerned that the key issues of appropriate mission for smokejumpers and the management of risk in the use of smokejumpers were not squarely addressed in this review. The IMRT urges the Leadership Council to carefully examine those issues as it addresses the smokejumper recommendations and to especially focus on the South Canyon causal factors related to smokejumpers.

Additional Actions:
Consider the recommendations of both reports and take appropriate action to refine, re-examine, or implement those recommendations.

Responsibility:
Federal Fire and Aviation Leadership Council

3.4: Training for Agency Administrators & Senior Incident Mgt. Personnel

Issue Synopsis:
Interagency fire courses for agency administrators and senior incident management personnel must be developed, adjusted, and attended to assure that those personnel have the training and knowledge necessary to effectively manage and oversee wildland fire programs. Lessons from South Canyon and other recent incidents need to be incorporated in these courses.

The IMRT recommended the following actions:

1. All Federal wildland fire agencies will require agency administrators attend the same Fire Management for Agency Administrators (FMAA) courses. Two interagency courses, targeted to the two agency administrator levels below the State Director, Regional Director, Regional Forester level should be developed.
2. The FMAA National Steering Committee needs to be expanded to include all five federal wildland fire agencies and should address the issue of location and number of courses offered to meet the targeted group. The steering committee also should look at avenues to re-emphasize "The dire need to create a passion for compliance with the basics of safe fire suppression".
3. Complete the Interagency "Fire Program Management" course which is targeted for current and future fire program managers.
4. The Advanced Incident Management/Area Command (S-520/620) Steering Committee review and adjust courses to include needed changes to address South Canyon findings. The Training Working Team of NWCG review and adjust Command and General Staff (S-420) to include needed changes to address South Canyon findings.

Results/Products:
1. The FS Rocky Mountain Region and BLM program review reports call for requiring the FMAA course (see IMRT C.1). A work group delivered report to the IMRT concerning the two levels of interagency course. The group recommended changing the title of Fire Management for Agency Administrators to Fire Management Leadership (FML). They further recommended a second level course for the geographic areas titled Fire Management Leadership for Local Agency Administrators (FMLLAA). The lesson plans from FML should be used as the basis for FMLLAA but should be changed or enhanced for the FMLLAA course.
2. The FMAA steering committee has been expanded to include all five Federal wildland firefighting agencies. The new steering committee is addressing all issues listed under number 2 above.

3. Course development is fully on schedule. See below.
4. The Advanced Incident Management/Area Command (S-520/620) Steering Committee completed review of the courses, made adjustments, and documented those adjustments in a January 13 memorandum to the IMRT Executive Secretary, Bill Ward. No action reported on Command and General Staff (S-420) course.

Additional Actions:

1. Consider the recommendations of the Meuchel report to the IMRT and implement those recommendations as appropriate.
2. Complete the study of the location and frequency required for the two levels of Agency Administrator training.
3. Complete course development and conduct an instructor hand-off session.
4. Adjust Command and General Staff (S-420) to include needed changes to address South Canyon findings.

Responsibility:

1. Federal Fire and Aviation Leadership Council
2. Fire Management for Agency Administrators Steering Committee
3. Bonnee Turner, Course Leader and Laurie Perrett, Steering Committee Chair
4. NWCG Training Working Team
   NIFC Course Development Group

3.5: Matching Qualified Incident Commanders with the Complexity of Incidents

Issue Synopsis:
Matching the qualifications of Incident Commanders with the complexity of fires during all phases of suppression operations is mandatory, based on management capability and safety considerations. However, it appears guidelines to make this complexity determination at the local level are vague and allow the utmost discretion by management. This has led to confusion and inconsistency in assigning management personnel and assessing needs. In addition to an incident complexity definition, a need exists to have a standard description for escaped fires and initial attack. Currently, this varies widely between agencies.

The IMRT recommended that the NWCG's ICS Working Team develop 1) a set of criteria which defines the complexity of incidents and a procedure for analyzing individual incident complexity for use by all agencies, 2) standards for use of Incident Commanders on each Type of incident for use by all agencies, and 3) standard definitions of initial attack, extended attack, and escaped fires with clarified guidelines for transition from one level of complexity to another.

Results/Products:
The ICS Working Team prepared an action plan to address the IMRT recommendations and desired product. The action plan addresses how the complexity of an incident is defined and analyzed. Additional standards for use by Incident Commanders on each type of incident were not developed since detailed standards currently exist. These standards simply need to be used. Finally, a transition plan for Type 1 and 2 team transitions was devised for use.

Additional Actions:
Implementation of the recommendations contained in the action plan.

Responsibility:
Federal Fire and Aviation Leadership Council jointly with the National Wildfire Coordinating Group

3.6: Qualifications of Fire Managers & Agency Administrators

Issue Synopsis:
Fire managers and agency administrators are not required to possess minimum qualifications in the area of fire management. Agency Administrators and fire managers are faced with decisions in fire suppression which can have major effects on funds spent and put at risk the public and firefighters' lives. These decisions also affect the protection of private and public resources from wildland fires. The IMRT strongly believes that all personnel involved in wildland fire management activities, from basic firefighter through agency administrators, must be trained and qualified to carry out their responsibilities.

The IMRT recommended that minimum qualifications for fire managers and agency administrators who are required to make fire management decisions be established. The IMRT also recommended that Agency Administrators should assure that personnel holding, or selected for, fire management or agency administrator positions are qualified for the level of wildland fire complexity involved in the position or are able to obtain these qualifications within an acceptable time period.

Results/Products:
A working group led by John Philbin, NWCG ICS Working Team Chair, issued a final report on April 1, 1995, outlining training, knowledge, skills and abilities for both Agency Administrators and Fire Management Officers and recommending that each Federal agency with wildland fire responsibilities issue a directive establishing these requirements.

The IMRT reviewed the report and recommendations from the working group. The recommendations for Fire Management Officer positions appear appropriate and reasonable. The recommendation that all recruitment actions to fill Agency Administrator positions include specific knowledge, skills, and abilities (KSA) prerequisites is not realistic. Instead, the IMRT recommends that the recommendation regarding attendance at the Fire Management for Agency Administrator course be expanded to require that all personnel selected for agency administrator positions acquire knowledge and skills commensurate with their position in the organization and the complexity of wildland fire within their jurisdiction. Agency administrators lacking this knowledge and skill should not be permitted to take certain actions related to wildland fire.

The IMRT also recommends that both agency administrator and fire management positions include competency and performance based criteria related to the nature and complexity of their wildland fire responsibilities.

Additional Actions:

1. Review and refine the work group recommendations, addressing the concerns and recommendations of the IMRT.
2. Direct the adoption of qualifications, training, and performance criteria for agency administrator and fire management officer positions.

Responsibility:

1. Federal Fire and Aviation Leadership Council
2. Agency/Bureau heads

3.7: Decision Making Process in Establishing Strategy for Suppression

Issue Synopsis:
Among the various policies and tools used in making decisions when determining the cost effective and safe suppression strategy, the Escaped Fire Situation Analysis (EFSA) provides a means to analyze alternatives and to document the Agency Administrator's decision on how a fire will be suppressed. Over the last few years there has been considerable concern and debate about how effective EFSAs have been as an analytical tool and how realistic some of the alternatives examined have actually been.

The IMRT recommended a comprehensive review of whether the EFSA tool, and the procedures to implement it, provide the best analytical approach to examining suppression alternatives, considering values at risk, and guiding suppression strategy. This review was to include how the EFSA and other processes can allow adjustments of suppression strategies to be made in light of resources actually available.

Results/Products:
A task group led by the National MAC Group Chair, Doug Erskine, produced a report addressing the list of questions contained in the initial IMRT report. This report was submitted as the comprehensive review requested by the IMRT. The report indicates that EFSAs should be used in a two-step process: (1) agency administrators conduct an initial, strategic analysis that considers values at risk, land use objectives, and suppression resources available (beyond the limits of immediate administrative unit) and (2) an analysis by the incident management team to address specific tactical issues. The first analysis determines the appropriate level and type of incident management needed. The report included a draft outline of the contents of an EFSA.

The IMRT reviewed the report of the task group. Although the presentation in the report does not highlight the key findings or recommendations of the group, the group apparently discussed and considered the strategic issues raised in the initial IMRT request. Further action is needed to better articulate and present the findings and recommendations of the task group and to develop usable formats and analytical criteria for use by agency administrators and incident management teams. This work should be done in conjunction with related efforts already underway, particularly in the Bureau of Land Management and U.S. Forest Service.

Additional Actions:
1. Refine and clarify the findings and recommendations of the task group.
2. Develop format and analytical criteria to implement task group recommendations.

Responsibility:
Federal Fire and Aviation Leadership Council

3.8: Evaluation of the Coordination/Dispatch System

Issue Synopsis:
The coordination/dispatch system evolved over the previous ten years into an interagency, intergovernmental three-tiered support structure that provides all resources to incidents, enabling land managers to meet management objectives. Differing views abound on how effective the current system meets these needs; during periods of high fire activity, such as the 1994 fire season, the system becomes stretched to the limits of its capability. Numerous specific issues were identified by the IMRT.

The IMRT recommended 1) an in-depth evaluation of the coordination/dispatch system to cover the many issues included in the initial IMRT report. Key items to be addressed during the evaluation included: organization, staffing, access to MAC groups, adjudication of resource orders, timing and content of intelligence, performance of individuals and organizations, the role of "zones", involvement of state representatives, support related to non-fire emergencies, and best means of providing intelligence for headquarters needs, and 2) development of a user-friendly system that allows all levels to easily input and update resource (personnel) status on a regular basis so that dispatchers at all levels can determine availability.

Results/Products:
An interagency group was established under the leadership of Cyndie Hogg, Southwest Coordination Center - BLM, to conduct the evaluation of the coordination/dispatch system and make recommendations back to the IMRT. The group's final report was submitted on April 14, 1995. The report addresses all the issues raised by the IMRT and either recommends corrective action or describes a follow-up action plan to better address the issue.

Additional Actions:
Take appropriate action to address the recommendations and action plan.

Responsibility:
Federal Fire and Aviation Leadership Council

3.9: Aviation Issues

Issue Synopsis:
The 1994 fire season stretched capabilities of fire-related aviation and highlighted a series of issues related to aviation operations, particularly the use of military aircraft. Four major areas of concern are training, readiness, military aircraft, and standards.

The National MAC Group was chartered to establish interagency groups to examine the issues of aviation training, readiness levels, use of military aircraft, and standards. These groups were to include representatives from the military as well as the USDA and DOI aviation programs.

Results/Products:
The National MAC Group delegated the study of aviation issues to the National Fire Aviation Coordinating Group, John Chambers, Chair. A detailed action plan was developed and groups were formed or identified to address each of the four major areas of concern. Each group prepared a report for the IMRT. Key actions or recommendations from each report are:

1. Training - NWCG's Aviation subcommittee reviewed existing training, recommended changes to some existing courses, plus development of new courses to increase the knowledge of aviation use and improve effectiveness.
2. Readiness - the task group made a number of recommendations in the areas of Call When Needed aircraft inspections, pre-season assessment of private sector availability, identification of military units for support, mobilization of aviation technical specialists, and use of cooperator resources.
3. Use of Military Aircraft - the task group fully reviewed and revised Chapter 70, Aviation, of the Military Use Handbook.
4. Standards - the task group recommended a new interim Flight and Duty Limitations policy that would apply nationally and interagency during periods of extended high fire activity and would supersede normal Flight and Duty Limitations policy.

Additional Actions:
Take appropriate action to implement recommendations of the four reports

Responsibility:
Federal Fire and Aviation Leadership Council and National Fire Aviation Coordinating Group

3.10: Programmatic Review of Area Command

Issue Synopsis:
Several Area Commands (AC) were established during the course of the 1994 season with varying degrees of success. Some ACs were established and functioned differently than others, some appeared to be more successful than others, and in some instances it was not clear whether an AC was established in its traditional form. The mixed use of ACs raises a number of questions about whether ACs are the most effective organizational means to manage large numbers of complex incidents and whether sufficient training and qualification standards have been developed for AC teams.

The National MAC Group was chartered to conduct a programmatic review to determine the value and effectiveness of area commands, the need for pre-designated area command teams with a national rotation schedule, the training and qualifications of area command teams and members, and any alternatives to the use of area commands.

Results/Products:
The National MAC Group delegated this review to the current faculty of the Area Command (S-620) national course. A detailed report was prepared and submitted to the Chair of the National MAC Group and the IMRT on February 1, 1995. Included in the report are extensive interview notes from interviews conducted during the study. The report contains 12 recommendations covering the areas of Area Command organization, operations, and training and qualifications. Finally, a job description for the Area Command Aviation Coordinator position is included.

Additional Actions:
1. Implement the report recommendations for the 1995 fire season.
2 Review 1995 implementation, make necessary changes, and implement long term.

Responsibility:
1. National Interagency Fire Center Directors
2. Federal Fire and Aviation Leadership Council

3.11: Pre-Season and During Season Preparedness Capability

Issue Synopsis:
The 1994 fire season highlighted a number of long-standing issues related to the ability of individual agencies, and the overall interagency community, to be well prepared to provide fire protection, both pre-season planning and during the season activities. Should funding, FTE, or other constraints prevent agencies from establishing organizations that provide for the most efficient and effective level of fire protection, consideration may need to be given to adjusting the standards or levels of protection expected. During incidents, strategies and tactics should be examined to assure that they are consistent with levels of resources actually available.

The issues of preparedness, from the standpoints of (1) pre-season preparation to provide cost-effective fire protection consistent with values and risk and (2) to adjust preparedness capabilities throughout the season should conditions warrant, must be addressed by senior management of the wildland fire management agencies and the two Departments. Preparedness provides the basis for safe, cost-effective wildland fire protection. Appropriate preparedness levels will reduce risks to lives, property, and natural resources as well as reduce overall public expenditures for wildland fire operations.

Results/Products:
This issue is being addressed by the Federal Wildland Fire Policy and Program Review. Public comment on this and other issues was solicited in January, 1995. A draft report was released for public comment on June 9, 1995.

Additional Actions:
1. Final report submitted to the Secretaries.
2. Implement recommendations contained in the report.

Responsibility:
1. Federal Wildland Fire Policy and Program Review Steering Committee
2. Secretaries of Agriculture and of the Interior

3.12: Fire Management Planning

Issue Synopsis:
The five federal wildland fire agencies have each adopted separate fire management planning systems. These systems fall into two basic categories: (1) optimization models (used by FS, BLM, and BIA) and (2) allocation models (used by NPS and FWS). Each approach has strengths and weaknesses. Three major weaknesses shared by both approaches are the focus on single agency initial attack, the inability to adequately assess the role of non-market or non-commodity values at risk, and the inability to adequately address "non-normal" conditions. Never the less, the systems currently provide the principal source of information for budget planning and for organizational configurations in each agency.

The single-agency focus and contrasting approaches of the various systems has precluded effective interagency planning, both for initial and extended attack situations, and for geographic area and national level resources. The lack of capability to address non-market values has hampered the ability of the fire management programs to provide an organization that accounts for all resources and inhibits cross-agency comparisons.

While each agency has been making modifications and improvements to their own systems over the years, discussion has begun within the interagency fire community to commission a new generation system that can be used by all agencies (including states) and that addresses the full range of fire management planning issues. In November, 1993, the National Wildfire Coordinating Group (NWCG) initiated an exploratory study of developing such a system.

Results/Products:
The Federal Fire and Aviation Leadership Council has agreed to assume responsibility for this issue and will establish a standing interagency team.

Additional Actions:
Establish a team to develop a next generation fire management planning system, usable by all agencies and states, would greatly enhance the ability to analyze the full range of planning issues and provide a more efficient and effective interagency fire protection organization. Fire management planning systems must address the role that fuels management and protection of adjacent lands and structures play in fire protection planning.

Responsibility:
Federal Fire and Aviation Leadership Council

3.13: Catastrophic Accident Investigations/ Search and Rescue

Issue Synopsis:
The complexity and prominence of the South Canyon incident and investigation underscored a number of issues such as the responsibility for search and rescue of missing personnel, the adequacy of procedures for catastrophic accidents such as the South Canyon multiple fatalities, the need for greater coordination with OSHA, the need for training of personnel in investigative techniques and procedures, trauma counseling for the investigation team and survivors, the relationship between the accident investigation and any personnel or disciplinary reviews or actions, the credibility of investigations conducted "in-house", and the need for support services for investigation teams, such as public affairs, writer/editors, and technical specialists have all been identified as problems or issues that arose during the South Canyon incident.

The IMRT noted that resolving these and other issues is critical for the conduct of effective and efficient accident investigations in order to improve safety for firefighters by learning from the accidents. It recommended that the Departments of Agriculture and the Interior develop improved, coordinated accident investigation procedures, that roles and responsibilities be clarified, and that steps be taken to develop a closer working relationship with the Occupational Safety and Health Administration.

Results/Products:
1. A task group led by Jim Stevens, USDA, and Jim Meredith, DOI, recommended in May, 1995, a memorandum of understanding between the two departments to improve coordination and conduct of accident investigations. The task group disagreed with the initial IMRT recommendation that "standing" teams be created. The IMRT has reviewed the task group's recommendations and concurs.
2. A task group under the leadership of Bryan Swift, NPS, has been convened to address such issues as trauma counseling for the investigation team and survivors, the relationship between the accident investigation and local authorities, and the need for support services (such as specialized crisis communications) for local agency administrators faced with incidents like the South Canyon fatalities.
3. A number of informal conversations have been held with OSHA personnel regarding improving coordination and understanding of wildland fire suppression and investigations. The NWCG has discussed the merits of developing "alternative" OSHA standards for wildland fire.

Additional Actions:
1. Execute memorandum of understanding between Departments of the Interior and Agriculture on accident investigations and implement by addressing such issues as the

adequacy of procedures for catastrophic accidents, the need for greater coordination, training of personnel in investigative techniques and procedures, and the need for support services for investigation teams, such as public affairs, writer/editors, and technical specialists.

2. Complete the work of the task group led by Bryan Swift; consideration and implementation of task group recommendations.
3. Initiate formal, policy-level contact with OSHA to begin efforts to improve coordination and understanding between OSHA and the wildland fire agencies.

Responsibility:

1. Designated Agency Safety and Health Officials, Departments of the Interior and Agriculture and DOI and FS Safety Managers.
2. Bryan Swift; Federal Fire and Aviation Leadership Council
3. Designated Agency Safety and Health Officials, Departments of the Interior and Agriculture

3.14: Fuels Management

Issue Synopsis:
The tremendous build-up of wildland fuels in many parts of the country poses a significant risk to the safety of firefighters. Fire behavior in such situations can be expected to be extreme and have catastrophic results. Management of fuels, especially by use of prescribed fire, faces significant obstacles, including public and agency management reluctance to pro-active use of fire and significant restrictions on smoke emissions from prescribed fire.

Fuels management, especially through the re-introduction of fire as an integral part of natural resource management must be a high priority of the Departments of the Interior and Agriculture. The IMRT strongly recommended that both Departments begin taking immediate steps to reduce fuel loads and actively pursue the re-introduction of fire into all aspects of land management.

Results/Products:
This issue is being addressed by the Federal Wildland Fire Policy and Program Review. Public comment on this and other issues was solicited in January, 1995. A draft report was released for public comment on June 9, 1995.

Additional Actions:
1. Final report submitted to the Secretaries.
2. Implement recommendations contained in the report.

Responsibility:
1. Federal Wildland Fire Policy and Program Review Steering Committee
2. Secretaries of Agriculture and of the Interior

3.15: Wildland/Urban Interface

Issue Synopsis:
The interface between wildlands and settlement, whether it be second homes, subdivisions, or entire communities, creates a particularly dangerous and risky environment for wildland firefighters. Personnel trained and equipped to handle fire in natural settings and fuels are increasingly being asked to protect structures. This not only diverts firefighting resources from the protection of natural resources, it exposes firefighters to conditions and situations for which they are not well equipped or well trained.

The Departments of the Interior and Agriculture, in consultation and coordination with such partners as the National Association of State Foresters, FEMA, and the NFPA, must place a priority on development of policies that define the appropriate role for federal wildland firefighters in protecting adjacent structures and communities. If such protection is important, the necessary resources in the form of equipment, personnel, and training must be provided in order to minimize the risk to firefighter safety.

Results/Products:
This issue is being addressed by the Federal Wildland Fire Policy and Program Review. Public comment on this and other issues was solicited in January, 1995. a draft report was released for public comment on June 9, 1995.

Additional Actions:
1. Final report submitted to the Secretaries.
2. Implement recommendations contained in the report.

Responsibility:
1. Federal Wildland Fire Policy and Program Review Steering Committee
2. Secretaries of Agriculture and of the Interior

Appendices

APPENDIX 1:
May 12, 1995, Letter to All Employees from Secretaries Glickman and Babbitt

APPENDIX 2:
List of Key Source Documents

APPENDIX 3:
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Appendices

WASHINGTON

THE SECRETARY OF AGRICULTURE

THE SECRETARY OF THE INTERIOR

MAY 1 2 1995

TO ALL EMPLOYEES

1994 was a tragic year for wildland fire. Even more sobering is that without the judgment and commitment to safety demonstrated by firefighting personnel throughout the Nation, our losses could have been even greater. Important lessons were learned, including an affirmation that agency personnel at all levels, and not just those directly involved in fire suppression, must demonstrate a commitment to safety.

We are committed to "Zero Tolerance" of carelessness and unsafe actions. The commitment to and accountability for safety is a joint responsibility of firefighters, managers and administrators. No resource or property values are worth endangering people. All land management plans and all suppression plans and actions must reflect this commitment. Individuals must be personally committed and responsible for their own performance and accountability.

Please join us in adopting firefighting's code of safe practices:

Safety Comes First on Every Fire, Every Time.

The Ten Standard Fire Orders are Firm. We Don't Break Them; We Don't Bend Them.

All Firefighters have the Right to a Safe Assignment.

Every Firefighter, Every Fireline Supervisor, Every Fire Manager, and Every Agency Administrator has the Responsibility to Ensure Compliance with Established Safe Firefighting Practices.

Secretary of Agriculture

Secretary of the Interior

Appendix 2

References

Report of the South Canyon Fire Accident Investigation Team, 1994.

Report of the Interagency Management Review Team, 1994. South Canyon Fire.

USDA/USDI, 1995. *Firefighter Safety Discussion Guide (with video).*

Department of Labor, Occupational Safety and Health Administration, 1995. *Investigation of the South Canyon Fire.*

Department of Labor, Occupational Safety and Health Administration, 1995. *Notice of Unsafe or Unhealthful Working Conditions.* Addressed to Director, Bureau of Land Management, 7 pp.

USDI-Bureau of Land Management, Information Bulletin No. 95-2034, 1995. *Interim Fire Program Guidance and Abatement Plan,* 39 pp.

Proceedings of the Firefighter Safety Workshop, Snowbird, Utah, 1995. National Wildfire Coordinating Group, Safety and Health Working Team.

USDI-Bureau of Land Management, 1995. *Management Review of the BLM Colorado Fire and Aviation Program.*

USDI-Bureau of Land Management, 1995. *Fire and Aviation Programwide Management Review Report.*

USDA-Forest Service, 1995. *Fire and Aviation Program Management Review, USDA - Forest Service, Rocky Mountain Region.*

Appendix 3

Availability of Documents

Source documents and products and results referred to in this report are available at the following locations:

National Interagency Fire Center
Attention: Bill Ward
3833 S. Development Avenue
Boise, Idaho 83705-5354
208-387-5508

Office of Hazard and Fire Programs Coordination
U.S. Department of the Interior
ms7356
1849 C Street, N.W.
Washington, D.C. 20240
202-208-7702

Appendix 4

Responsibility for Additional Actions

The following descriptive paragraphs provide additional explanation and contact information for those individuals or groups having follow-up action on South Canyon and/or IMRT issues. In every case, effort was made to assign action to existing or standing groups, teams, or committees normally having oversight or responsibility for the specific issue or topic area:

1. **Bureau/Agency Directors** - refers to the heads of the five Federal agencies having wildland fire responsibilities and organizations. These are the Commissioner of Indian Affairs, BLM Director, FWS Director, and NPS Director, all in the Department of the Interior, and the Chief of the Forest Service in the Department of Agriculture.

2. **Federal Fire and Aviation Leadership Council** - the council is formed by the heads of fire and aviation for each of the five Federal agencies having wildland fire responsibilities and organizations and is responsible for interagency policy and operational coordination among the five agencies. Current members are:

Steve Haglund, Bureau of Indian Affairs	208-387-5575
Alan Dunton, Bureau of Land Management	208-387-5150
Roger Erb, U.S. Fish and Wildlife Service	208-387-5596
Rick Gale, National Park Service	202-208-5760
Mary Jo Lavin, Forest Service	202-205-1483

3. **National Wildfire Coordinating Group** (NWCG) - chartered in 1973, NWCG membership is composed of the fire directors for the five Federal wildland fire agencies, the Director of Forest Fire and Atmospheric Sciences Research for the FS, two State Foresters (one each from the East and the West), and a representative of the U.S. Fire Administration. In addition, the President of the National Fire Protection Association is an Associate Member (non-voting). Purpose of the NWCG is to provide national, interagency coordination and standards in such areas as safety, training, equipment, automation, etc. Most NWCG work is accomplished by standing Working Teams, task groups, and related advisory groups. Current chair of the NWCG is:

William Sommers, USDA-FS, 202-205-1483

NWCG Working Teams and Advisory Groups:

A. Fire Behavior Subcommittee of the Training Working Team, Bill Clark chair, 208-387-5224

B. Incident Command System (ICS) Working Team, John Philbin chair, 602-379-6798

C. Information Resource Management Working Team, John Gebhard chair, 208-387-5164

D. National Advisory Group on Fire Danger Rating. Wayne Mitchell chair, 916-653-5708

E. National Fire Weather Advisory Group, James Travers chair, 301-713-1706

F. Safety and Health Working Team, Dave Aldrich chair, 208-387-5604

4. **Federal Wildland Fire Policy and Program Review Steering Committee** - the committee was chartered by the Secretaries to examine the need for modification of and addition to Federal fire policy with a final report scheduled for October, 1995. Co-chairs of the committee are:

Claudia Schechter	Charles Philpot
U.S. Department of the Interior	USDA-Forest Service
202-208-6254	503-326-5640

5. **National MAC Group** - this group is composed of the five agency fire directors at the National Interagency Fire Center plus the directors of the two support organizations (National Weather Service and DOI's Office of Aircraft Services). The National Multi-Agency Coordinating Group has responsibility during wildland fire operations for allocation of scarce resources, re-allocation of resources as necessary, and nation-wide priority setting in wildland fire. Current chair of the National MAC Group is:

Doug Erskine, USDI-NPS, 208-387-5201

6. **Geographic Area Coordinating Groups** - these groups are formed for each of the nine Geographic Areas of the nation for wildland fire and include top level fire manager from Federal and state wildland fire agencies. Typically the Groups implement Area-wide, interagency program coordination including oversight of the Geographic Area Coordination Center. Information about individual Coordinating Groups may be obtained by contacting the National MAC Group at the National Interagency Fire Center in Boise, Idaho.

7. **National Interagency Fire Center Directors** - the Boise-based directors of wildland fire in the five federal wildland fire agencies:

Steve Haglund, Bureau of Indian Affairs	208-387-5575
Alan Dunton, Bureau of Land Management	208-387-5150
Roger Erb, U.S. Fish and Wildlife Service	208-387-5596
Doug Erskine, National Park Service	208-387-5201
Dennis Pendleton, U.S. Forest Service	208-387-5604

8. **National Weather Service National Program Lead** - provides National Program Leadership to the NWS Fire Weather Program:

Jeanne Hoadley, 301-713-1677

9. **Designated Agency Safety and Health Officials** (DASHOs) - the designated individuals for the cabinet level agency:

Claudia Schechter
U.S. Department of the Interior
202-208-6254

Wardell Townsend
U.S. Department of Agriculture
202-720-3291

10. **DOI and FS Safety Managers** - the specific safety managers for the Department of the Interior and the Forest Service are:

Jim Meredith
U.S. Department of the Interior
303-236-7128

Jim Stevens
USDA - Forest Service
703-235-2738

11. **Fire Management for Agency Administrators Steering Committee** - this committee has responsibility for content, organization, target group, etc. for this training course which teaches responsibilities of Forest Supervisors, BLM District Managers, and their peer level in the other Federal agencies in managing a wildland fire management program. Current steering committee chair is:

Jim Lawrence, USDA-Forest Service, 415-705-2870

12. **Fire Program Management Steering Committee** - this committee has responsibility for content, organization, target group, etc. for this training course which gives unit level Fire Management Officers basic skills, knowledge and ability to successfully manage a wildland fire program. Current steering committee chair is:

Laurie Perrett, USDA-Forest Service, 503-326-4932

13. **NIFC Course Development Group** - this is a group of ten training development specialists who work in the National Fire and Aviation Training Support Group at the National Interagency Fire Center in Boise, Idaho. This group is the primary development group for most national, interagency fire training up to the 500 level courses. The lead training specialist in the Group is:

Mike Munkres, USDI-BLM, 208-387-5315

14. **Director of Forest Fire and Atmospheric Sciences Research, USDA Forest Service** :

William Sommers, USDA - Forest Service, 202-205-1483

15. **Federal Fire Aviation Coordinating Group** - provides national interagency coordination for aviation program issues. Current chair is:

John Chambers, USDA - Forest Service, 202-205-1505

16. **Other Individuals**

Bill Clark, NPS, NIFC, 208-387-5224
Bill Bradshaw, FS, 703-235-9698

Appendix 5

Management Implications Workshop

INTERAGENCY MANAGEMENT REVIEW TEAM

March 13 - 14, 1995
Washington, D.C.

Summary of Discussions and Conclusions

On March 13 and 14, 1995, the Interagency Management Review Team (IMRT) convened a meeting in Washington, D.C. (at Main Interior Building) to discuss in more detail the comments on "Management Implications" found in the October 17, 1994, report of the IMRT. This meeting was held in large part in response to findings by the Occupational Safety and Health Administration that the fatalities on the South Canyon Fire were due in large part to a failure of management involvement and accountability in the federal wildland fire management program.

Several members of the IMRT attended, along with a wide variety of agency administrators, fire program staff, and safety staff from the five federal wildland fire agencies, as well a representation from the National Association of State Foresters.

The meeting took place all day March 13 and the morning of March 14. The meeting began with a general discussion about the issues of management involvement and accountability for safety, particularly wildland fire safety. Following small group discussions on the three topic areas of creating a passion for safety, involvement of agency administrators, and monitoring performance and accountability. The full group then reconvened and developed the following strategy and recommended actions:

1. INCREASING MANAGEMENT COMMITMENT AND INVOLVEMENT IN WILDLAND FIRE SAFETY

   Recommended Actions:
   - Strong, simple, direct joint statement from both Secretaries;
   - Agency-level statements reinforcing and elaborating upon the Secretarial statement;
   - Clearly, succinctly, and visually stating the roles and responsibilities of agency administrators, fire management staff, and firefighters, covering all facets, not just safety
   - Demonstrate continued commitment and involvement through word and deed

2. FIREFIGHTER INVOLVEMENT AND FEEDBACK

Recommended Actions:

- Conduct workshop to communicate and demonstrate commitment to firefighter safety, to share information on current safety projects and initiatives, and to establish a working relationship between firefighters and management
- Develop fire "incident reports" like those used in aviation, allowing employees to report problems, issues, and concerns to management;
- Develop feedback loop for continuous improvements, capturing information
- Use a matrix of roles and responsibilities to help clarify expectations
- Inform and involve employees in developing management actions by attending meetings of employee groups and through NWCG activities

3. IMPROVE PERFORMANCE AND ACCOUNTABILITY

Recommended Actions:

- Develop criteria for agency administrator selection
- Recognize the accomplishments of employees and managers through formal and informal means: awards, case studies in training, the "grapevine;" especially recognize employees who take action based on sound risk assessment, regardless of outcome;
- If performance is bad, take appropriate action (training, reassignment, etc.)
- Performance evaluations must reflect commitment to Secretarial policy of "zero tolerance; " outcomes (such as bonuses) must reflect success
- Explore performance measures, benchmarks, and other means of documenting success, or failure;
- Highlight positives and successes of firefighters, agency administrators, and fire management personnel;
- Ensure that organizational restructuring and realignment does not jeopardize firefighter safety
- Ensure that agency land use plans, manuals, and other guidance do not jeopardize firefighter safety
- Develop means for superiors to know there are problems
- Develop a Code of Ethics for Fire - for firefighters, fire management, and agency administrators;
- Develop a Statement of Commitment that safety is paramount and linked to Secretarial policy - for firefighters, fire management, and agency administrators;
- Develop criteria for evaluating Type III/IV incident commanders

Appendix 6

Corrective Action Plan Accomplishments Summary Table

ISSUE	ISSUE SUMMARY	RESULTS/PRODUCTS	ADDITIONAL ACTIONS	RESPONSIBILITY	PAGE
IMRT A.1 - Red Flag Program	Conduct a comprehensive evaluation of the NWS Red Flag Program. Develop recommendations to improve the effectiveness of the program. Develop action plan and timetable to implement.	Task group issued report 5/5/95. Watch and warnings terminology changed. Fire weather watch for dry lightning time extended. Tightened Red Flag criteria locally.	1. Adequate training on watches and warnings. 2. Ensure NWS Fire Weather Operating Plans clarify difference between watches and warnings. 3. Complete review of NWS Red Flag Program.	1. Bill Clark, NPS, NIFC 2. NWS National and Regional Fire Weather Program Leaders 3. Jeanne Hoadley, NWS, National Fire Weather Program Leader	22
IMRT A.2 - Fire Weather and Behavior Availability	Amend Area Mobilization Guides to reflect a fire behavior analyst will be requested whenever a fire weather meteorologist is requested for a coordination center. Evaluate use of service centers and recommend implementation procedures if feasible.	National MAC issued guidance requiring fire behavior analyst 9/16/94. Amended in 1995 to say "should" request. Evaluation of service center concept resulted in recommendation against and was accepted by IMRT.	Ensure guidance is published in each Geographic Area Mobilization Guide for 1995.	Geographic Area Coordinating Groups NIFC Fire Directors	24
IMRT A.3.a - Communicating Fire Weather Forecasts	Amend National Mobilization Guide requiring, and issue memorandum to all agency administrators advocating that all wildland fire agencies broadcast fire weather forecasts over the radio and undertake other measures to ensure widespread dissemination of fire weather forecasts to all fire personnel.	Direction on communicating fire weather forecast information was included in the 1995 Mobilization Guide, page 5, paragraph 13.8.	Ensure direction on communicating fire weather information is in Geographic Area Mobilization Guides and Dispatch Center operating guides.	Geographic Area Coordinating Groups	26
IMRT A.3.b - Communicating Fire Weather Forecasts	Revise Incident Command Type 3 and 4 task books to list specific fire weather information which must be obtained during initial and extended attack assignments. (ICS Working Team concerned this recommendation inappropriate for position task books. Preparing response for IMRT.)	ICS Working Team recommended against including in task books but recommended inclusion of the requirement in the next revision of the Fireline Handbook.	1. Issue interim guidance requiring specific fire weather information to be obtained by Type 3 & 4 ICs. 2. Include language in next revision of the Fireline Handbook.	1. Federal Fire and Aviation Leadership Council 2. ICS Working Team, John Philbin	26

ISSUE	ISSUE SUMMARY	RESULTS/PRODUCTS	ADDITIONAL ACTIONS	RESPONSIBILITY	PAGE
IMRT A.4 - Request for Spot Weather Forecasts	Refine the Investigation Report recommendation and, if needed, develop an amendment to the Fireline Handbook reflecting "spot weather forecasts should be requested for fires that have potential for extreme fire behavior or exceed initial attack or are located in areas for which red flag warnings have been issued".	ICS Working Team developed the proposed amendment which was forwarded to John Philbin for inclusion in the updated Fireline Handbook.	1. Issue amendment language as interim direction for 1995 fire season. 2. Publish language in Fireline Handbook for long term direction.	1. Federal Fire and Aviation Leadership Council 2. ICS Working Team, John Philbin	28
IMRT A.5 - Fire Weather Forecasts	Prepare an amendment to the Fireline Handbook stressing that NOAA Weather Radio forecasts should not be substituted for fire weather forecasts as these radio broadcasts are general weather for the general public. Should only be used as a supplement to fire weather forecasts.	ICS Working Team developed the proposed amendment which was forwarded to John Philbin for inclusion in the updated Fireline Handbook.	1. Issue amendment language as interim direction for 1995 fire season. 2. Publish language in Fireline Handbook for long term direction.	1. Federal Fire and Aviation Leadership Council 2. ICS Working Team, John Philbin	29
IMRT A.6 - Fire Danger	Develop an Implementation Plan to improve technical transfer of fire danger technology. This plan should identify means of tech transfer, necessary training courses/workshops, responsible groups for course development, time frames, and evaluation procedure.	The task group developed an in-depth strategy and implementation plan including methodology, training courses and workshops needed, target groups, responsibility, time frames, and evaluation procedures.	Implement the major report tasks: 1. NFDRS training at NARTC 2. NFDRS regional training 3. Develop other NFDRS training 4. NFDRS operating plans 5. Present Intro Overview to agency administrators	The National Advisory Group on Fire Danger Rating, Wayne Mitchell, will track the implementation of all the tasks	30
IMRT A.7 - NWS Role in Fire Management Program	Conduct a study and prepare a report on how the NWS fire weather modernization program expects to meet the current and expected future fire weather needs of wildland firefighting agencies. The study should include the results of both the 1994 Fire Weather User's Summit and the ongoing National Fire Weather Risk Reduction Project.	The task group delivered a report 4/17/95 which summarizes ongoing coordination efforts between the NWS and the interagency fire management program and expressing concern over proposed NWS budget cuts.	Continue efforts between NWS and the interagency fire management program to ensure forecast demands of the fire program can be met.	National Fire Weather Advisory Group	32

ISSUE	ISSUE SUMMARY	RESULTS/PRODUCTS	ADDITIONAL ACTIONS	RESPONSIBILITY	PAGE
IMRT A.8 - Live Fuel Moisture Sampling	Develop a report on establishing a live fuel moisture sampling program. Identify wildland fuel types in which fire behavior can be strengthened through the collection and management of live fuel moisture data. Estimate resources needed to carry out any proposals. Identify magnitude of improvement that will result from use of data and a cost/benefit analysis of implementing any proposed program.	The team completed a report titled "Live Fuel Moisture" which was accepted by the IMRT. The report contains numerous recommendations plus a wealth of additional information.	Implementation of the "Live Fuel Moisture" report recommendations	Federal Fire and Aviation Leadership Council	34
IMRT B.1 - Attitudes and Leadership	Develop contract Request for Proposals designed to secure both short- and long-term strategies for institutionalizing a strengthened fire-safety sensitivity throughout the leadership and among employees in all agencies associated with wildland firefighting. Desired outcome is that leadership at all levels will set and demonstrate a clear commitment to excellent fire safety and fire management and that standards, policies, and orders be understood by fire personnel and fire agency administrators along with their roles, responsibility and accountability.	RFP was issued on 5/8/95 with 30 day window for submitting proposals. Bill Bradshaw is COR and a team of subject matter experts has been identified to work with the contractor.	1. Contract award and monitoring progress on contract through point of final product acceptance. 2. Implementation of products from the contract.	1. Bill Bradshaw, FS Fire Business Manager 2. Bureau/Agency Directors	35
IMRT B.2 - Training Emphasis on Basics	Review the S-130, S-190, S-290, S-390, and S-230 courses to determine if adequate attention is given to the basics of firefighter safety (10 Standard Orders, 18 Watchout Situations, "Look Up, Look Down, Look Around") and recommend updates as needed. Recommend how material should be presented to trainees. Assess the need for a basic strategy and tactics course to be presented prior to crew boss training.	The task group delivered a report 2/25/95. It outlines enhancements to listed courses, recommends a strategy/tactics course for Fire-fighter Type 1, and recommends all training development, delivery, and instructors meet NWCG prescribed standards.	Implementation of the recommendations from the task group report including the Action Plan developed as a portion of the report.	NWCG Training Working Team, George Martin, and NIFC Course Development Group, Phil Range	37

ISSUE	ISSUE SUMMARY	RESULTS/PRODUCTS	ADDITIONAL ACTIONS	RESPONSIBILITY	PAGE
IMRT B.3 - Development of Training Exercise Based on South Canyon Fire	Review existing wildland fire courses for opportunities to use scenarios based upon the South Canyon Fire incident. Lessons learned should be incorporated into existing training course work where appropriate. Lessons learned must be presented in a variety of wildland situations/scenarios, not specifying the South Canyon incident, since similar conditions can occur in a variety of situations.	The task group delivered a report 2/25/95 and concurred with IMRT that a stand-alone course was not needed. Lessons learned have been or are being incorporated in a number of existing courses and other opportunities were identified.	Continue to explore opportunities to incorporate lessons learned into new or revised curriculum. Incorporate in Intermediate Fire Behavior (S-290) and Command and General Staff (S-420). Complete works in progress and schedule future revisions to include South Canyon lessons learned.	NWCG Training Working Team, George Martin, and NIFC Course Development Group, Phil Range	38
IMRT B.4 & B.7 - Fire Shelter Courses (B.4) Entrapment Courses (B.7)	1. Develop a wildfire suppression safety training package that includes available safety training materials. The package should be designed to easily accept new information as it becomes available. Package should include info provided in "Standards for Survival", "Look Up, Look Down, Look Around", fire shelter deployment, and other relevant safety info. Incorporate results from IMRT B.5 & B.8 as it is available. 2. Determine an appropriate frequency for initial wildfire suppression safety and refresher training. Include standards in PMS 310-1.	The NWCG Safety and Health Working Team felt it unnecessary to package existing materials as no revisions are needed. They are developing "Firefighter Survival" course applying safety basics to a series of scenarios including South Canyon. The ICS Working Team established via a 5/16/95 IMRT Action Plan that mandatory training is already in place and the Wildland Fire Qualification Subsystem Guide (NWCG 310-1) will be modified to require annual refresher training in fire shelter deployment, 10 Standard Orders, and 18 Watch Out Situations.	1. Provide immediate interim direction requiring annual refresher training. 2. Include annual safety refresher training requirement in the 1996 update to the NWCG 310-1.	1. Federal Fire and Aviation Leadership Council 2. ICS Working Team, John Philbin	39
IMRT B.5 & B.8 - Guidelines for Shelter Deployment and Safety Zones	Develop guidelines for adequate fire shelter deployment sites and safety zones in different heat and flame scenarios to show the value and the limitations of the fire shelters. Incorporate in fire shelter training. Include recommendations reference field packs in shelters in case of a deployment situation, as well as, the carrying of fusees in field packs. Result should be deployment guidelines that are easy to use for firefighters under extremely stressful situations.	Dick Mangan submitted a report 5/5/95 outlining guidelines for consideration in updating the fire shelter module of safety training. The report stated the two fire shelter training courses are being updated and will be available through PMS. Mangan notes that no training can truly substitute for actual fireline experience.	Integrate the Mangan report into the current fire shelter training module and certify/issue the updated course.	NWCG Training Working Team, George Martin, and NIFC Course Development Group, Phil Range	41

ISSUE	ISSUE SUMMARY	RESULTS/PRODUCTS	ADDITIONAL ACTIONS	RESPONSIBILITY	PAGE
IMRT B.6 - Fire Behavior and Fire Weather Training	1. In conjunction with the "Fire Program Management" course under development at NARTC, insure that appropriate fire weather, fire behavior, and fire danger material is included. 2. Develop mandatory refresher training for fire management officers to annually supplement this course. 3. Develop guidance to make "Fire Program Management" or an agency equivalent, and refresher training, mandatory for all unit level fire management officers.	1. The FPM Steering Committee strengthened fire weather, fire behavior and fire danger rating portions of the course in 12/95. 2. The FPM Steering Committee recommended agency specific annual refresher needs and require FMOs review/conduct refresher training on the unit. 3. Will be accomplished when course is made available to the Geographic Areas.	1. Complete field implementation of Fire Program Management course following instructor handoff. 2. Require Fire Program Management or equivalent for all unit level FMOs. 3. Require all unit level FMOs annual refresh fire weather and behavior as it relates to their unit.	1. Fire Program Management Steering Committee, Laurie Perrett, and Bonnee Turner 2. Federal Fire and Aviation Leadership Council 3. Federal Fire and Aviation Leadership Council	43
IMRT C.1 - Management Review of Fire Management Programs - BLM Colorado	1. Conduct a management review of the Fire and Aviation Programs for BLM Colorado to address policy direction; accountability mechanisms; training and qualifications of personnel; and staffing including budget, workload and FTE controls. 2. Conduct a single BLM-wide management review of the fire and aviation programs that includes all the states. Coordinate with the review in item 1 above. 3. Conduct a management review of the fire and aviation programs in Forest Service Region 2, similar to that in item 1 above.	1. The team issued "Management Review of the BLM Colorado Fire & Aviation Programs" 3/23/95. It contains 56 recommendations which the acting BLM Director accepted and ordered implemented. 2. The team issued "Bureau of Land Management Fire and Aviation Programwide Management Review Report" 4/14/95. It contains 22 recommendations which the acting BLM Director accepted and ordered implemented. 3. The team issued "Fire and Aviation Program Management Review, USDA - Forest Service, Rocky Mountain Region" 3/27/95. It contains 72 recommendations which the FS Chief accepted and ordered implemented.	Implement the recommendations contained in the three management review reports	Director, BLM and Chief, USDA-FS	45
IMRT C.2 - Implementation of NWCG Work, Rest, and Rotation Guidelines	Develop and implement work-rest, rotation, and rest and recuperation guidelines that are accepted by all federal wildland firefighting organizations. Publish guidelines as policy in the updated Interagency Fire Business Management Handbook.	A task group developed and published NWCG Amendment 95-1 to the Interagency Fire Business Management Handbook which establishes guidelines for work/rest, length of commitment and rest and recuperation.	None required.	N/A	47

ISSUE	ISSUE SUMMARY	RESULTS/PRODUCTS	ADDITIONAL ACTIONS	RESPONSIBILITY	PAGE
IMRT D.1 - Analysis of Planning/Operations for Fire Severity Variation	Develop criteria and standards so fire severity processes are developed for the management reviews of the fire and aviation programs. Give special attention to analysis of how all federal, state, and local firefighting organizations plan and conduct fire operations to respond to wide variations in fire severity from season to season. Review all agencies' plans and interagency geographic coordination centers. Share successes. Define role and responsibility for NICC, geographic boards, and geographic area MAC Groups.	A work group delivered a report to the IMRT 5/19/95 which recommends role and priority of severity monitoring and recommends fully defining the role of Geographic Area Boards and field units in the severity process.	Consideration of the recommendations from the working group and implementation as appropriate.	Federal Fire and Aviation Leadership Council in conjunction with NWCG	48
IMRT D.2 - Drought Monitoring	Develop procedures to monitor the level of drought at representative fire weather stations. Using drought info, present fire danger levels should be compared with other parameters (historic averages, worst case conditions, etc.) and appropriate suppression response adjusted based on this information. Develop methods for effective utilization of drought indices in National and Geographic Area MAC Group projections.	The National Fire Weather Advisory Group responded to IMRT in April, 1995. They recommended referring this issue to a USDA-FS research facility. The IMRT and Director of Forest Fire and Atmospheric Sciences Research for the Forest Service concurred.	1. Develop system to apply existing knowledge about drought. 2. Decision on which drought index (Palmer or Keetch-Byram) to use. 3. Decision on ongoing responsibility for operation of system.	1. Director of Forest Fire and Atmospheric Sciences Research, USDA-FS 2. NWCG National Fire Weather Advisory Group, Jim Travers, and National Advisory Group on Fire Danger Rating, Wayne Mitchell 3. NWCG Information Resource Management Working Team, John Gebhard; National Fire Weather Advisory Group, Jim Travers; and National Advisory Group on Fire Danger Rating, Wayne Mitchell	50
IMRT 3.1 - Incident Meteorologist for Type 1 Incidents	Develop guidance requiring that NWS Incident Meteorologists be ordered as part of each Type 1 IMT's standard order during wildfire mobilization (except in extenuating circumstances such as close proximity situations). Ensure sufficient fire weather info is available to improve safety and minimize risk to firefighters. Incorporate guidance in the 1995 National Mobilization Guide.	The National MAC group issued interim guidance 9/16/94. This guidance was published in the 1995 National Mobilization Guide page 14, section 22.5.	None required.	N/A	52

ISSUE	ISSUE SUMMARY	RESULTS/PRODUCTS	ADDITIONAL ACTIONS	RESPONSIBILITY	PAGE
IMRT 3.2 - Standardized Spot Fire Weather Forecasts	1. Develop a standard format for Spot Fire Weather Forecasts, similar to those used for Fire Weather and Fire Behavior forecasts. 2. Review standard format through NWCG and adopt for wildland firefighting implementation.	A task group developed a draft spot fire weather forecast format which is in the review process by the National Weather Service (NWS).	1. NWS forward standard format to National Fire Weather Advisory Group and NWCG Fire Behavior Committee for review/agreement. 2. Implement agreed format on nationwide basis.	1. National Fire Weather Advisory Group and NWCG Fire Behavior Committee 2. Jeanne Hoadley, NWS, National Fire Weather Program Leader	53
IMRT 3.3 - Shared Resources (Smokejumpers and Hotshots)	Conduct program reviews of both the Smokejumper and Hotshot Crew programs. These reviews are in response to the utilization and short supply of these shared resources during the 1994 fire season. Program reviews should particularly focus on Mission Compatibility (operating within original mission?), Operational Procedures, Training, Safety, and Agency Direction.	Reports on both programs were completed 3/1/95. The Hotshot report has 16 recommendations and the Smokejumper report has 31. The IMRT reviewed both reports and has concern that the Smokejumper report does not fully address the key issues. IMRT urged the Leadership Council to carefully examine those issues and South Canyon causal factors related to smokejumpers.	Consider the recommendations of both reports and take appropriate action to refine, re-examine, or implement those recommendations.	Federal Fire and Aviation Leadership Council	54
IMRT 3.4.1 - Training for Agency Administrators and Senior Incident Management Personnel	Ensure all Agency Administrators attend the common Fire Management for Agency Administrators training course for their level in a location agreed upon by the FMAA National Steering Committee. Develop two courses for the two levels of agency administrator.	Program review reports (see IMRT C.1) require FMAA. Work group recommended changing title of FMAA to Fire Management Leadership, a second level course titled Fire Management Leadership for Local Agency Administrators, and changing or enhancing lesson plans from Fire Management Leadership as basis for second level course.	Consider the recommendations of the task group report to the IMRT and implement those recommendations as appropriate.	Federal Fire and Aviation Leadership Council	55

ISSUE	ISSUE SUMMARY	RESULTS/PRODUCTS	ADDITIONAL ACTIONS	RESPONSIBILITY	PAGE
IMRT 3.4.2 - Training for Agency Administrators and Senior Incident Management Personnel	Expand the Steering Committee for the training course Fire Management for Agency Administrators to include representation from all five federal wildland firefighting agencies. Steering committee chartered to have oversight of both levels of the FMAA course. Expanded Committee to look at all avenues to re-emphasize "The dire need to create a passion for compliance with the basics of safe fire suppression".	The Fire Management for Agency Administrators Steering Committee was expanded to include all five agencies. They are conducting a study of location and frequency required for the two levels of training.	Complete the study of the location and frequency required for the two levels of agency administrator training.	Fire Management for Agency Administrators Steering Committee	55
IMRT 3.4.3 - Training for Agency Administrators and Senior Incident Management Personnel	Complete the Interagency "Fire Program Management" training course, which is targeted for current and future fire program managers, on schedule. Incorporate other recommendations into this course material.	Course development is fully on schedule with instructor handoff training scheduled for 11/28/95 - 12/7/95.	Complete the course development and conduct the instructor handoff training.	Bonnee Turner, Course Leader and Laurie Perrett, Steering Committee Chair	55
IMRT 3.4.4 - Training for Agency Administrators and Senior Incident Management Personnel	Review and adjust both the S-420 and the S-520/620 training courses to reflect needed changes to address the South Canyon Fire Investigation findings.	The S-520/620 course was reviewed and adjusted as described in a 1/13/95 memo. No action was reported on review or adjustment of the S-420 course.	Adjust S-420 course to include needed changes to address South Canyon findings and lessons learned.	NWCG Training Working Team and NIFC Course Development Group, Jim Cafferty	55
IMRT 3.5 - Matching Qualified Incident Commanders with the Complexity of Incidents	Develop a set of criteria that define the complexity of incidents and procedure for analyzing individual incident complexity for use by all agencies. Develop standards for use of Incident Commanders on each type of incident for use by all agencies. Develop standard definitions of initial attack, extended attack, and escaped fire, and clarify guidelines for transition from one level of complexity to another.	The ICS Working Team prepared an action plan addressing definition and analysis of incident complexity and transition plans for Type 1 and 2 team transitions.	Implementation of the recommendations contained in the action plan.	Federal Fire and Aviation Leadership Council jointly with the National Wildfire Coordinating Group	57

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IMRT 3.6 - Qualifications of Fire Managers and Agency Administrators in Fire Management	Establish minimum qualifications for fire managers and agency administrators who are required to make fire management decisions. Ensure that personnel holding, or selected for, fire management or agency administrator positions are qualified for the level of wildland fire complexity involved in the position or are able to obtain these qualifications within an acceptable time period.	A working group issued a report 4/1/95 outlining training, knowledge, skills, and abilities for AAs and FMOs. The IMRT agreed with the report with the exception of specific KSAs for AAs which IMRT felt unrealistic. IMRT recommends requiring AAs acquire appropriate knowledge and skills and, prior to acquiring, should not be permitted to take certain actions related to wildfire.	1. Review and refine the work group recommendations, addressing the concerns and recommendations of the IMRT. 2. Direct the adoption of qualifications, training and performance criteria for agency administrator and fire management officer positions.	1. Federal Fire and Aviation Leadership Council 2. Agency/Bureau heads	58
IMRT 3.7 - Decision Making Process in Establishing Strategy for Suppression	Conduct a comprehensive review of whether the EFSA tool, and the procedures to implement it, provide the best analytical approach to examining suppression alternatives, considering values at risk, and guiding suppression strategy. Include how the EFSA and other processes can allow adjustments of suppression strategies to be made in light of actual resource availability. Recommend to the IMRT improvements, modifications, or replacement of the EFSA, and/or how it should be used.	A task group developed a report indicating use of the EFSA in a two-step process: 1) agency administrator for initial strategic analysis and 2) incident team to address tactical issues. The IMRT feels further action is needed to better articulate the findings and recommendations of the group and to develop formats and analytical criteria for use by AAs and IMTs.	1. Refine and clarify the findings and recommendations of the task group. 2. Develop format and analytical criteria to implement task group recommendations.	Federal Fire and Aviation Leadership Council	60
IMRT 3.8 - Evaluation of the Coordination/Dispatch System	Evaluate the coordination/dispatch system including staffing, access to and input into MACs, consistency of the three-tiered approach, adjudication of resource orders, intelligence, and performance. Consider the many additional issues raised by the IMRT including potential modifications of system to effectively support non-fire emergencies, best method for meeting needs of headquarters' staffs, and an enhanced, user-friendly system for resource tracking and availability.	An interagency group was established to conduct the evaluation of the coordination/dispatch system and make recommendations back to the IMRT. The group's final report was submitted on April 14, 1995. The report addresses all the issues raised by the IMRT and either recommends corrective action or describes a follow-up action plan to better address the issue.	Take appropriate action to address the recommendations and action plan.	Federal Fire and Aviation Leadership Council	62

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IMRT 3.9 - Aviation Issues	Establish a broad interagency group(s) including aviation program members from DOI, FS, and the military to examine the use of aviation resources. Issues to be included in this examination include aviation training, readiness levels, use of military aircraft, and standards. Recommendations are then to be provided to the IMRT addressing how aviation resources from all sources can be used most effectively and efficiently.	Four separate reports were prepared for the IMRT addressing all issues raised. Recommendations include revising some training courses and developing some new courses, a number of recommendations to enhance readiness, a revised Chapter 70 (Aviation) of the Military Use Handbook, and interim Flight and Duty Limitations for use during periods of high to extreme fire activity.	Take appropriate action to implement recommendations of the four reports.	Federal Fire and Aviation Leadership Council and National Fire Aviation Coordination Group	63
IMRT 3.10 - Programmatic Review of Area Command	Conduct a programmatic review of the use of area commands to determine the value and effectiveness of area commands, the need for pre-designated AC teams with a national rotation schedule, the training and qualifications of area command teams and members, and any alternatives to the use of area commands. Provide recommendations to the IMRT on improving management of large fire complexes using ACs or some alternative and on improving the training and qualifications of teams managing large fire complexes.	The National MAC Group delegated this review to the faculty of Area Command (S-620). A report was submitted 2/1/95 containing 12 recommendations covering the areas of Area Command organization, operations, and training and qualifications. The report also contains a job description for the Area Command Aviation Coordinator position.	1. Implement the report recommendations for the 1995 fire season. 2. Review 1995 implementation, make necessary changes, and implement long term.	1. NIFC Fire Directors 2. Federal Fire and Aviation Leadership Council	64

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IMRT 3.11 - Pre-Season and During Season Preparedness Capability	Conduct a review of the various preparedness issues raised in the South Canyon Investigation and by the IMRT, and provide specific recommendations to overcome barriers and obstacles to adequate preparedness capability. Among the issues to be considered are adequacy of funding, adequacy of personnel ceiling, ability to effectively manage fire FTEs, availability of non-fire personnel, effect of changing standards for hiring and promoting seasonal personnel, effect of positive education requirements, ability of agencies to modify fire protection organizations during the season to meet abnormal or changing conditions, and ability to attract and develop a diverse workforce.	This issue is being addressed by the Federal Wildland Fire Policy and Program Review. Public comment on this and other issues was solicited in January, 1995. A draft report was released for public comment on June 9, 1995.	1. Final report submitted to the Secretaries. 2. Implement recommendations contained in the report.	1. Federal Wildland Fire Policy and Program Review Steering Committee. 2. Secretaries of Agriculture and of the Interior	65
IMRT 3.12 - Fire Management Planning	Develop a next-generation fire management planning system, usable by all agencies and states. System should address the role that fuels management and protection of adjacent land and structures play in fire protection planning. System should be capable of addressing the full range of planning issues including non-market values at risk, non-normal fire years, fuels management, wildland-urban interface, and geographic-area and national-level resources.	The Federal Fire and Aviation Leadership Council has agreed to assume responsibility for this issue and will establish a standing interagency team.	Establish a team to develop a next generation fire management planning system, usable by all agencies and states, that enhances the ability to analyze the full range of planning issues and provides a more efficient and effective interagency fire protection organization. Address the role that fuels management and protection of adjacent lands and structures play in fire protection planning.	Federal Fire and Aviation Leadership Council	666

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IMRT 3.13 - Catastrophic Accident Investigations - Search and Rescue	Develop a report that defines clear roles and responsibilities for incident managers and members of accident investigation teams. Report should address improved accident investigation procedures for serious accidents including the formation of standing teams with appropriate training and qualifications and the inclusion of trained investigators. Also, develop a strategy for Departments of Agriculture and of the Interior to develop a closer working relationship with OSHA, with the goal of conducting joint, or complementary, investigations of wildland fire accidents.	A task group recommended in May, 1995, an MOU between the two departments to improve coordination and conduct of accident investigations which the IMRT has concurred with. A second task group has been convened to recommend support for agency administrators faced with significant incidents. Significant conversation has occurred with OSHA and NWCG has discussed merits of developing "alternative" OSHA standards for wildland fire.	1. Execute the MOU between Departments of Agriculture and of the Interior. 2. Complete the work of the task group led by Bryan Swift; consideration and implementation of task group recommendations. 3. Initiate formal, policy-level contact with OSHA to begin efforts to improve coordination and understanding between OSHA and the wildland fire agencies.	1. Designated Agency Safety and Health Officials, Departments of the Interior and Agriculture and DOI and FS Safety Mangers 2. Bryan Swift; Federal Fire and Aviation Leadership Council 3. Designated Agency Safety and Health Officials, Departments of the Interior and Agriculture	67
IMRT 3.14 - Fuels Management	Develop a report addressing fuels management and use of prescribed fire issues with goals of making wildlands more productive and healthy, making fire suppression efforts more efficient and effective, and reducing the risks to firefighters. Recommend fuels management strategy that incorporates fire as a major element, with recommendations to overcome barriers and obstacles to implementation.	This issue is being addressed by the Federal Wildland Fire Policy and Program Review. Public comment on this and other issues was solicited in January, 1995. A draft report was released for public comment on June 9, 1995.	1. Final report submitted to the Secretaries. 2. Implement recommendations contained in the report.	1. Federal Wildland Fire Policy and Program Review Steering Committee 2. Secretaries of Agriculture and of the Interior	69
IMRT 3.15 - Wildland/Urban Interface	Develop a wildland fire strategy for the wildland/urban interface that addresses the appropriate roles and responsibilities of federal, state, local, and private sectors. Also, recommend a strategy to overcome barriers and obstacles to implementing that strategy.	This issue is being addressed by the Federal Wildland Fire Policy and Program Review. Public comment on this and other issues was solicited in January, 1995. A draft report was released for public comment on June 9, 1995.	1. Final report submitted to the Secretaries. 2. Implement recommendations contained in the report.	1. Federal Wildland Fire Policy and Program Review Steering Committee 2. Secretaries of Agriculture and of the Interior	70

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